



Payflow Pro Developer's Guide

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Payflow Pro Developer's Guide

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Preface

Payflow Pro is a high performance TCP/IP-based Internet payment solution. Payflow Pro is pre-integrated with leading e-commerce solutions and is also available as a downloadable software development kit (SDK).

Intended Audience

This guide assumes that its readers:

- Are experienced web or application developers
- Have a background in payments services

Organization of This Document

This document is organized as follows:

- [Chapter 1, “Introduction,”](#) describes the Payflow Pro Internet payment solution.
- [Chapter 2, “Installing and Configuring the Payflow APIs,”](#) shows a typical Payflow installation procedure for Windows NT and UNIX.
- [Chapter 3, “Performing Credit Card Transactions,”](#) discusses credit card transaction syntax and parameters and describes how to perform transactions.
- [Chapter 4, “Responses to Credit Card Transaction Requests,”](#) describes the responses to credit card transaction requests.
- [Chapter 5, “Testing Payflow Pro Credit Card Transactions,”](#) describes how to test your Payflow Pro integration for credit card transactions.
- [Chapter 6, “Activating Your Payflow Pro Account,”](#) specifies the steps you follow when you are ready to accept live transactions with Payflow.
- [Chapter 7, “PayPal Express Checkout Transaction Processing,”](#) describes how to integrate the PayPal tender type into your web application.
- [Chapter 8, “PayPal Button Placement and Page Designs,”](#) provides guidelines for placement of PayPal button graphics on your website.
- [Appendix A, “Processors Requiring Additional Transaction Parameters,”](#) lists processors and their processor-specific parameters.
- [Appendix B, “Performing TeleCheck Electronic Check Transactions,”](#) discusses TeleCheck transaction syntax and parameters and describes how to perform transactions. In addition, this chapter describes testing your TeleCheck integration.

- [Appendix C, “Responses to TeleCheck Transaction Requests,”](#) describes the responses to TeleCheck transaction requests.
- [Appendix D, “Submitting Purchasing Card Level 2 and Level 3 Transactions.”](#) Payflow Pro supports passing Purchasing Card Level 2 information (such as purchase order number, tax amount, and charge description) in the settlement file.
- [Appendix E, “Verbosity: Viewing Processor-Specific Transaction Results,”](#) describes how you can use the Payflow Verbosity parameter to control the kind and level of information you want returned in a transaction response.
- [Appendix F, “Additional Reporting Parameters,”](#) details the parameters that can be passed to the server for reporting purposes.
- [Appendix G, “ISO Country Codes,”](#) lists Country Codes, Units of Measure, and Currency Codes.
- [Appendix H, “XMLPay,”](#) briefly describes XMLPay and tells where you may obtain a copy of *Payflow Pro XMLPay Developer’s Guide*.
- [Appendix I, “Codes Used by FDMS South Only,”](#) lists codes used only by First Data Merchant Services (FDMS) South.

Where to Go for More Information

PayPal Manager online help describes the use of PayPal Manager—the web-based administration tool that you use to process transactions manually, issue credits, and generate reports.

For answers to specific questions about Payflow products, search PayPal’s Knowledge Base at the following URL: <http://knowledge.paypal.com/>.

How to Contact Customer Service

For problems with transaction processing or your connection to the server, contact Customer Service at payflow-support@paypal.com.

Revision History

Revision history for *Payflow Pro Developer’s Guide*.

TABLE P.1 Revision History

Date	Description
March 2006	Integrated Express Checkout feature.

TABLE P.1 Revision History

Date	Description
May 2006	Updated document title, product names. Reformatted in PayPal templates. Added AMEX recommendations for enhanced data for detecting fraud. Added support for multiple currencies. Edited for technical accuracy.
August 2006	Added AMEX CAPN changes. Updated URLs. Updated Table 3.3, “Processing platforms supporting AVS.”
October 2006	Corrections for technical accuracy.
December 2006	Revised PayPal button graphics guidelines. Added error code 51 Corrected test and live URLs Added SHIPTOSTREET and SHIPTOSTREET2 to Get Express Checkout Details response parameters

1

Introduction

Payflow Pro is a high performance TCP/IP-based Internet payment solution. Payflow Pro is pre-integrated with leading e-commerce solutions and is also available as a downloadable software development kit (Payflow SDK).

About Payflow Pro

Payflow Pro resides on your computer system and is available on all major web server platforms in a variety of formats to support integration requirements. It is available as a C library (.dll/.so), binary executable, Java library, COM object, Java Native Interface, and Perl Module Interface.

Payflow Pro is multi-threaded and allows multiple concurrent transactions from a single client. It can be integrated as a web-based or a non-web-based application. It does not require the HTTP protocol to run, which allows for greater flexibility in configuration and reduced processing overhead for higher performance.

How the Payflow Pro Works

Payflow Pro uses a client/server architecture to transfer transaction data from you to the processing networks, and then returns the authorization results to you. Payflow Pro can process real-time credit card transactions and other transaction types to most of the financial processing centers in the United States.

1. The Payflow client encrypts each transaction request using the latest Secure Sockets Layer (SSL) encryption and establishes a secure link with the Payflow server over the Internet.
2. The Payflow server, a multi-threaded processing environment, receives the request and transmits it (over a secure private network) to the appropriate financial processing network for real-time payment authorization.
3. The response (approved/declined, and so on) is received from the financial network and is returned in the same session to the Payflow client.
4. The Payflow client completes each transaction session by transparently sending a transaction receipt to the server before disconnecting the session.

The entire process is a real-time synchronous transaction. Once connected, the transaction is immediately processed and the answer returned in about three seconds. Processing transactions through the Payflow service does not affect or define the time periods of authorizations, nor does it influence the approval or denial of a transaction by the issuer.

When integrating with Payflow Pro, you need only be concerned with passing all the required data for transaction authorization. For transactions that you want to be settled (close batch), the operation is handled by PayPal.

Payflow Pro Advantages

- **Configurable to any e-commerce application.** Payflow Pro is ideal for enterprise merchants who require complete customizability for a controlled buyer experience.
- Downloadable from PayPal Manager Downloads page, the Payflow SDK can be easily integrated into a customized e-commerce solution in a matter of hours.
- **Integration versatility.** Payflow Pro can be integrated as an application library or can be run using CGI scripts.

Pre-integrated Solutions

Payflow Pro is integrated with the majority of third-party shopping carts and e-commerce applications.

The following Payflow Pro integrations are available from PayPal Manager's Download page <https://manager.paypal.com>:

- BEA Weblogic
- IBM Websphere Payment Manager
- Macromedia Cold Fusion
- Microsoft Commerce Server 2000 and 2002
- Miva
- Oracle iPayment

Supported Processing Platforms

Payflow Pro supports the following processing platforms:

- American Express Phoenix
- First Data Merchant Services (FDMS) Nashville
- First Data Merchant Services (FDMS) North
- First Data Merchant Services (FDMS) South
- Global Payments Central
- Global Payments East
- Nova
- Paymentech New Hampshire
- Paymentech Tampa
- First Data TeleCheck
- Vital

Supported Credit Cards

Payflow Pro supports multiple credit card types, including:

- American Express/Optima
- Diners Club
- Discover/Novus
- Enroute
- JCB
- MasterCard
- Visa

Supported Payment Types

Payflow Pro supports multiple payment types in a single installation, including:

- Credit cards
- PayPal
- Pinless debit cards
- Electronic check
- Check cards
- Purchasing cards (also referred to as commercial cards, corporate cards, procurement cards, or business cards) Level II and Level III

- Automated Clearing House (ACH). For information on performing ACH transactions, contact your PayPal Sales Representative at paymentsales@PayPal.com

Payflow Pro Recurring Billing Service

The Recurring Billing Service is a scheduled payment solution that enables you to automatically bill your customers at regular intervals—for example, a monthly fee of \$42 for 36 months with an initial fee of \$129.

You enroll separately for the Payflow Pro Recurring Billing Service. Using Payflow Pro to define and manage recurring transactions is fully described in *Payflow Pro – Recurring Billing Service User’s Guide*.

About Security

It is your responsibility to protect your passwords and other confidential data and to implement security safeguards on your website and in your organization, or to ensure that your hosting company or internal web operations team is implementing them on your behalf.

IMPORTANT: *To enable testing of Payflow Pro, PayPal provides sample transaction scripts that you customize with your Payflow Pro account information and password. Because the password is initially stored in the text of the program, it is vulnerable.*

Do not use the test scripts in your production environment. To minimize fraud, machine passwords should always be encrypted. You must write a program that encrypts and decrypts your Payflow Pro account password.

2

Installing and Configuring the Payflow APIs

The Payflow software development kit (SDK) is available either as a standalone client that you can integrate with your web store using CGI scripts or as a set of APIs for direct integration with your application.

This chapter provides instructions for downloading the SDK appropriate to your platform.

IMPORTANT: *Full API documentation is included with each SDK.*

Supported Platforms

Payflow Pro is available on all major web server platforms in a variety of formats to support your integration requirements. It is available as a C library (.dll/.so), binary executable, Java library, COM object, Java Native Interface, and Perl Module Interface.

TABLE 2.1 *Payflow Pro supported platforms*

Windows NT 4.0, 2000, 2003	Linux - libc6 / glibc2 / ELF kernels 2.0.36 and above
Solaris 2.6 - Intel	Linux (Redhat 9.x)
Solaris 2.7/2.8 - Sparc	Pure Java Any JDK 1.2, 1.4
BSDI 4.0	SGI IRIX 6.2
HP UX 11.0	AIX 4.3
	FreeBSD 5.x

Preparing the Payflow Client Application

Follow these steps to download and install the Payflow application.

Step 1 Download the Payflow SDK

From the **Download** section of the PayPal Manager (<https://manager.paypal.com>), download the Payflow SDK appropriate for your platform.

Step 2 Extract the files to a local directory**Step 3 Configure your firewall**

If you have a stateful firewall, enable outbound traffic for SSL (port 443). The firewall keeps state on the connection, and automatically permits the inbound response from PayPal.

If you do not have a stateful firewall, enable inbound and outbound traffic for SSL (port 443). Outbound traffic permits the initial request by Payflow Pro, while inbound permits the response from PayPal.

Step 4 Set the certificate path

To enable the client to authenticate the Payflow server, you must set the path to include the **certs** directory (included with the Payflow SDK that you downloaded).

For specific information on setting the certificate path, see the Readme file and example applications in the SDK.

Step 5 Read the Readme file or Installation Guide

The readme.txt file includes integration information and samples that illustrate how to use the client in your development environment.

3

Performing Credit Card Transactions

This chapter describes performing credit card transactions.

Responses to transaction requests are described in [Chapter 4, “Responses to Credit Card Transaction Requests.”](#)

Using Payflow Pro to define and manage recurring transactions is fully described in *Payflow Pro – Recurring Billing Service User’s Guide*.

NOTE: This chapter also includes information on the Pinless debit tender type. For information on TeleCheck transactions, skip this chapter and see [Appendix B, “Performing TeleCheck Electronic Check Transactions.”](#)

In This Chapter

- [“About Credit Card Processing” on page 21](#)
- [“Contents of a Transaction Request” on page 24](#)
- [“How To Format a Transaction” on page 26](#)
- [“Parameters Used in Credit Card Transactions” on page 26](#)
- [“Values Required by All Transaction Types” on page 30](#)
- [“Submitting Sale Transactions” on page 31](#)
- [“Submitting Authorization/Delayed Capture Transactions” on page 32](#)
- [“Submitting Credit Transactions” on page 35](#)
- [“Submitting Void Transactions” on page 37](#)
- [“Submitting Inquiry Transactions” on page 38](#)
- [“Recharging to the Same Credit Card \(Reference Transactions\)” on page 40](#)
- [“Submitting Purchasing Card Transactions” on page 44](#)
- [“Using Address Verification Service” on page 44](#)
- [“Card Security Code Validation” on page 46](#)

About Credit Card Processing

Credit card processing occurs in two steps — a real-time Authorization and a capture (settlement) of the funds that were authorized. As discussed below, you perform these two steps either as a single transaction or as two transactions, depending on your business model.

For an Authorization, the server sends the transaction information to a credit card processor who routes the transaction through the financial networks to the cardholder’s issuing bank. The issuing bank checks whether the card is valid, evaluates whether sufficient credit exists,

checks values such as address verification service and card security codes (discussed below), and returns a response: Approval, Decline, Referral, or others.

You receive the response a few seconds after you submit the transaction to the server. If the Authorization is approved, the bank temporarily reserves credit for the amount of the transaction to prepare to capture (fulfill) the transaction. The hold on funds typically lasts for about a week.

NOTE: You cannot remove a hold on funds through the processing networks—you must contact the card issuing bank to lift a hold early.

Capturing a transaction (also known as settling a transaction) actually transfers the funds to your bank. At least once a day, PayPal gathers all transactions that are flagged to be settled and sends them in a batch file to the processor. The processor then charges the issuing bank and transfers the funds to your bank. It typically takes a few days before the money is actually available in your account, depending on your bank.

Obtaining an Internet Merchant Account

To accept credit cards over the Internet, you need a special account called an Internet Merchant Account. Your account provider or merchant (acquiring) bank works with a PayPal-supported credit card processor, such as First Data, Vital, or Paymentech. To use Payflow Pro to accept live credit cards, you must provide certain details about your account to PayPal during the “Go Live” part of the enrollment process.

NOTE: An Internet Merchant Account is a different type of merchant account than a merchant account used for face-to-face (in-person) retail transactions. It has additional risks associated with card-not-present (e-commerce) transactions. You need to obtain an Internet Merchant Account even if you already accept credit cards at your location.

To apply for an Internet Merchant Account, contact your merchant (acquiring) bank.

Planning Your Payflow Pro Integration

In designing your Payflow Pro integration, you should evaluate the following:

- Whether to use a one-step or two-step transaction process. One-step: Submit a Sale transaction, which performs the Authorization and (if successful) then flags the transaction for settlement. Two-step: Perform an Authorization-only transaction and then later perform a Delayed Capture transaction. The Delayed Capture transaction can be for the same amount as the original transaction or for a lower amount. (In the case of a split shipment, you can perform a Delayed Capture transaction for the initial shipment and a reference transaction for the final payment. These transaction types, plus the details of performing a Delayed Capture for an amount higher than the original, are described in [“Submitting Authorization/Delayed Capture Transactions” on page 32.](#))

According to card association rules, most physical goods merchants should use a two-step process, since settlement should occur when the goods are fulfilled or shipped. A two-step process is also useful if you want to evaluate information in the response, such as whether the issuer verifies the billing address, and so on. Electronic goods merchants, who fulfill

the order immediately, can use the one-step process. Check with your Internet Merchant Account provider for suggestions on the best method for you.

- Whether or how to use risk management tools such as address verification service and card security code. For address verification service, if the data is submitted with the initial transaction, the issuer checks the street address and/or the ZIP (postal) code against the billing address on file for the consumer. address verification service is described on [page 44](#).

Card security code refers to a 3- or 4-digit number that appears on the back of most credit cards. On American Express, the number appears above and to the right of the embossed card number. Card security code is known by other names, such as CVV2, depending on the type of card. If card security code data is submitted, the issuer can notify you whether the number matches the number assigned to the card. Card security code is described on [page 46](#).

It may also be possible to implement additional safeguards yourself or to use a fraud service. You might want to discuss risk management with your Internet Merchant Account provider.

- Store information in your local database or use PayPal Manager reports to manage the data. You may want to store shipping information in your system, or you may prefer to send the information to PayPal with the transaction and report on it later.

NOTE: PayPal recommends that you do not store credit card numbers. If you must store numbers, encrypt and store them behind properly configured firewalls. You should also consider whether and how to use the merchant-defined fields COMMENT1 and COMMENT2 to help tie reports to your orders/customers or to report on other information about the transaction.

- If or how you want to integrate with other systems, such as order fulfillment, customer service, and so on. You may wish to connect these systems directly to Payflow Pro for capturing funds, issuing refunds/credits, and so on. Alternatively, you may prefer to perform these steps manually using PayPal Manager. Either way, PayPal recommends that you monitor transaction activity using PayPal Manager.
- You may want to discuss, with your Internet Merchant Acquirer, practices that help you to obtain the most advantageous rates.

Complying With the E-commerce Indicator (ECI)

Some processors support a software flag called E-commerce Indicator (ECI) that indicates that the associated transaction is an Internet transaction. Payflow Pro complies with ECI basic requirements for all supported processors.

If you use the Buyer Authentication Service, then the ECI values reflects the Authentication status. See *Payflow Pro – Recurring Billing Service User’s Guide*.

Handling Credit Card Type Information

The Payflow SDK does not check the credit card types that you are accepting. If a customer uses a card type that you are not signed up to accept, the Payflow SDK responds with RESULT code 23, “Invalid account number,” or the processor returns a message that the customer is not signed up for the card type. For details on RESULT codes and response messages, see [Chapter 4, “Responses to Credit Card Transaction Requests.”](#) Optionally, you can provide your customer with a list of the card types that you accept (in a drop-down list or menu, for example).

To accept additional credit card types, you must contact your acquiring bank (the merchant that holds your Internet Merchant Account) and ask them to add the card type to your account. Upon notification from your Acquirer that you can start accepting the card type, you must add the card to your Payflow Pro account through PayPal Manager. See PayPal Manager online help for details.

Contents of a Transaction Request

Table 3-1 describes the connection parameters that you need to pass when submitting a transaction request to the Payments gateway. Pass them in the format and syntax required by the SDK and programming language that you are using. See your integration documentation for details.

TABLE 3.1 *Connection parameters*

Argument	Required	Description
HOSTADDRESS	Yes	PayPal’s host name. For live transactions, use <code>payflow.verisign.com</code> For testing purposes use <code>test-payflow.verisign.com</code>
HOSTPORT	Yes	Use port 443
PARMLIST	Yes	The PARMLIST is the list of parameters that specify the payment information for the transaction. The quotation marks “ ” at the beginning and end are required. In the example, the ParmList is: <code>"TRXTYPE=S&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&PWD=x1y2z3&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00"</code> The content of the PARMLIST varies by the type of transaction being processed. For example, a Void transaction requires a different set of parameters than does a Sale transaction. “Parameters Used in Credit Card Transactions” on page 26 defines the parameters used to create credit card transactions. “Values Required by All Transaction Types” on page 30 lists the parameters required by each transaction type.

TABLE 3.1 *Connection parameters (Continued)*

Argument	Required	Description
TIMEOUT	Yes	Time-out period for the transaction. The minimum recommended time-out value is 30 seconds. The PayPal client begins tracking from the time that it sends the transaction request to the PayPal server.
PROXYADDRESS	No	Proxy server address. Use the PROXY parameters for servers behind a firewall. Your network administrator can provide the values.
PROXYPORT	No	Proxy server port
PROXYLOGON	No	Proxy server logon ID
PROXYPASSWORD	No	Proxy server logon password

PARMLIST Syntax Guidelines

Follow these guidelines when creating the PARMLIST:

- Spaces are allowed in values.
- Enclose the PARMLIST in quotation marks (“”).
- Quotation marks (“”) are not allowed within the body of the PARMLIST.
- Separate all name-value pairs in the PARMLIST using an ampersand (&).
- Payflow ProSet the VERBOSITY transaction parameter to MEDIUM (default is LOW) if you want the response to return more detailed information. For details on VERBOSITY, see [Appendix E, “Verbosity: Viewing Processor-Specific Transaction Results](#)

Using Special Characters in Values

Because the ampersand (&) and equal sign (=) characters have special meanings in the PARMLIST, name-value pairs like the following examples are not valid:

```
NAME=Ruff & Johnson
COMMENT1=Level=5
```

To use special characters in the value of a name-value pair, use a *length tag*. The length tag specifies the exact number of characters and spaces that appear in the value. The following name-value pairs are valid:

```
NAME[14]=Ruff & Johnson
COMMENT1[7]=Level=5
```

NOTE: Quotation marks (“”) are not allowed even if you use a length tag.

How To Format a Transaction

For details on how to format a transaction based on the above information, refer to the examples and the supporting documentation provided with your SDK.

Parameters Used in Credit Card Transactions

All credit card processors accept the parameters listed in [Table 3.2](#) (required and optional parameters are noted) with one exception: the PayPal processor does not support the SWIPE parameter. “[Values Required by All Transaction Types](#)” on [page 30](#) lists the parameters required for each transaction type.

NOTE: Some processors require yet additional parameters. See the following sections:

- [Appendix A, “Processors Requiring Additional Transaction Parameters,”](#) provides additional parameter requirements for non-PayPal processors.
- [Appendix F, “Additional Reporting Parameters,”](#) provides a list of parameters that you can pass for reporting purposes.

TABLE 3.2 *Credit-card transaction parameters*

Parameter	Description	Required	Type	Max. Length
ACCT	Credit card or purchase card number. This value may not contain spaces, non-numeric characters, or dashes. For example, ACCT=5555555555554444 For the pinless debit TENDER type, ACCT can be the bank account number.	Yes ¹	Numeric	19
AMT	Amount (US Dollars) U.S. based currency. Specify the exact amount to the cent using a decimal point—use 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95. Your processor and/or Internet merchant account provider may stipulate a maximum amount.	Yes ¹	Numeric USD only	10
AUTHCODE	AUTHCODE is returned only for approved Voice Authorization transactions. AUTHCODE is the approval code obtained over the phone from the processing network.	req'd for Voice Authorization only.	Alpha-numeric	6
COMMENT1	Merchant-defined value for reporting and auditing purposes.	No	Alpha-numeric	128
COMMENT2	Merchant-defined value for reporting and auditing purposes.	No	Alpha-numeric	128

TABLE 3.2 Credit-card transaction parameters (Continued)

Parameter	Description	Required	Type	Max. Length
CURRENCY	<p>One of the following three-character currency codes:</p> <ul style="list-style-type: none"> • USD (US dollar) • EUR (Euro) • GBP (UK pound) • CAD (Canadian dollar) • JPY (Japanese Yen) • AUD (Australian dollar) <p>NOTE: CURRENCY is applicable only to processors that support transaction-level currency.</p>	No	Alpha	3
CUSTREF	<p>Merchant-defined identifier for reporting and auditing purposes. For example, you can set CUSTREF to the invoice number.</p> <p>You can use CUSTREF when performing Inquiry transactions. To ensure that you can always access the correct transaction when performing an Inquiry, you must provide a unique CUSTREF when submitting any transaction, including retries. See STARTTIME and ENDTIME.</p>	No	Alpha-numeric	12
CVV2	<p>A 3- or 4-digit code that is printed (not imprinted) on the back of a credit card. Used as partial assurance that the card is in the buyer's possession. See “Card Security Code Validation” on page 46.</p>	No	Alpha-numeric	4
ENDTIME	<p>Optional for Inquiry transactions when using CUSTREF to specify the transaction.</p> <p>ENDTIME specifies the end of the time period during which the transaction specified by the CUSTREF occurred. See STARTTIME.</p> <p>ENDTIME must be less than 30 days after STARTTIME. An inquiry cannot be performed across a date range greater than 30 days.</p> <p>If you set ENDTIME, and not STARTTIME, then STARTTIME is defaulted to 30 days before ENDTIME.</p> <p>If neither STARTTIME nor ENDTIME is specified, then the system searches the last 30 days.</p> <p>Format: <code>yyyymmddhhmmss</code></p>	No	Numeric	14
EXPDATE	<p>Expiration date of the credit card in <code>mmyy</code> format. For example, 0308 represents March 2008.</p>	Yes ¹	Numeric	4

TABLE 3.2 Credit-card transaction parameters (Continued)

Parameter	Description	Required	Type	Max. Length
NAME or FIRSTNAME	Account holder's name. This single field holds all of the person's name information.	No, but recommended	Alpha-numeric uppercase	30
ORIGID	The ID of the original transaction that is being referenced. This ID is returned by the PNREF parameter and appears as the Transaction ID in PayPal Manager reports. This value is case-sensitive.	Yes ¹	Alpha-numeric	12
PARTNER	The ID provided to you by the authorized PayPal Reseller who registered you for the Payflow Pro service. If you purchased your account directly from PayPal, use PayPal. This value is case-sensitive.	Yes	Alpha-numeric	12
PWD	The 6- to 32-character password that you defined while registering for the account. This value is case-sensitive.	Yes	Alpha-numeric	32
STARTTIME	Optional for Inquiry transactions when using CUSTREF to specify the transaction. STARTTIME specifies the beginning of the time period during which the transaction specified by the CUSTREF occurred. See ENDTIME. If you set STARTTIME, and not ENDTIME, then ENDTIME is defaulted to 30 days after STARTTIME. If neither STARTTIME nor ENDTIME is specified, then the system searches the last 30 days. Format: <code>yyyymmddhhmmss</code>	No	Numeric	14
STREET	The cardholder's street address (number and street name). The STREET address is verified by the address verification service (described in page 44.)	No	Alpha-numeric	30

TABLE 3.2 Credit-card transaction parameters (Continued)

Parameter	Description	Required	Type	Max. Length
SWIPE	<p>Used to pass the Track 1 or Track 2 data (the card's magnetic stripe information) for card-present transactions. Include either Track 1 or Track 2 data—not both. If Track 1 is physically damaged, the POS application can send Track 2 data instead. The track data includes the disallowed = (equal sign) character. To enable you to use the data, the SWIPE parameter must include a length tag specifying the number of characters in the track data. For this reason, in addition to passing the track data, the POS application must count the characters in the track data and pass that number. Length tags are described in “Using Special Characters in Values” on page 25.</p> <p>NOTE: SWIPE (card-present transactions) are not supported by the PayPal processor.</p>	Required only for card-present transactions	Alpha-numeric	
TENDER	<p>The tender type (method of payment). Values are: A = Automated clearinghouse C = Credit card D = Pinless debit E = Electronic check K = Telecheck P = PayPal</p> <p>See the <i>Payflow ACH Payment Service Guide</i> for details on the Automated clearinghouse tender type. See “Submitting Sale Transactions” on page 31 for information about Pinless debit transactions.</p>	Yes	Alpha	1
TRXTYPE	<p>A single character indicating the type of transaction to perform. Values are: S = Sale transaction C = Credit A = Authorization D = Delayed Capture V = Void F = Voice Authorization I = Inquiry</p>	Yes	Alpha	1
USER	<p>If you set up one or more additional users on the account, this value is the ID of the user authorized to process transactions. If, however, you have not set up additional users on the account, USER has the same value as VENDOR.</p> <p>The examples in this document use USER=SuperMerchant.</p> <p>This value is case-sensitive.</p>	Yes	Alpha-numeric	64

TABLE 3.2 Credit-card transaction parameters (Continued)

Parameter	Description	Required	Type	Max. Length
VENDOR	Your merchant login ID that you created when you registered for the Payflow Pro account. The examples in this document use VENDOR = SuperMerchant. This value is case sensitive.	Yes	Alpha-numeric	64
VERBOSITY	LOW or MEDIUM. LOW is the default setting—normalized values. MEDIUM returns the processor’s raw response values. See Appendix E, “Verbosity: Viewing Processor-Specific Transaction Results.”	No	Alpha	
ZIP	Account holder’s 5- to 9-digit ZIP (postal) code. Do not use spaces, dashes, or non-numeric characters. The postal code is verified by the address verification service and international address verification service (described on page 44). The ZIP code is verified by the address verification service (described in page 44 .)	No	Alpha	9

1. Some transaction types do not require this parameter. See “Values Required by All Transaction Types” on [page 30](#)

Values Required by All Transaction Types

All transaction types require values for the following parameters:

TRXTYPE
TENDER
PARTNER
VENDOR
USER
PWD

Each transaction type has additional parameter requirements, as listed in the following sections. Transaction responses are described in [Chapter 4, “Responses to Credit Card Transaction Requests.”](#)

Submitting Sale Transactions

The Sale transaction (TRXTYPE=S) charges the specified amount against the account, and marks the transaction for immediate fund transfer during the next settlement period. PayPal submits each merchant's transactions for settlement on a daily basis.

When To Use a Sale Transaction

A Sale transaction is best suited to businesses that provide immediate fulfillment for their products or services. If your business does not provide immediate fulfillment, then credit card association rules recommend that you use an Authorization and a Delayed Capture transaction. For details, see [“Submitting Authorization/Delayed Capture Transactions” on page 32](#). If you need to recharge a credit card and you are not storing the credit card information in your local database, you can perform a new reference transaction based on a Sale transaction. For details, see [“Submitting Authorization/Delayed Capture Transactions” on page 32](#).

Additional Parameters for Sale Transactions

To perform a Sale transaction, you are required to pass the following parameters:

ACCT
AMT
EXPDATE

NOTE: The pinless debit tender type requires essentially the same parameters as a credit card transaction. In addition to the values required by all transactions, you must pass values for the ACCT and AMT parameters. The **First Data Merchant Services (FDMS) South** processing platform supports Sale and Credit transactions only.

Typical Sale Transaction Parameter String

The following is a typical PARMLIST string passed in a Sale transaction.

```
"TRXTYPE=S&TENDER=C&USER=SuperUser&PWD=SuperUserPassword&VENDOR=SuperUser
&PARTNER=PayPal&ACCT=5105105105105100&EXPDATE=1209&CVV2=123&AMT=99.00&
FNAME=Bill&LNAME=Smith&STREET=123 Main
St. &CITY=Anywhere&STATE=CA&ZIP=12345&COMMENT1=Reservation&INVNUM=1234567
890&PONUM=C12345&CVV2=567&VERBOSITY=MEDIUM"
```

Note that, besides the required parameters that you pass in a Sale transaction, this string includes other typical parameters. The COMMENT1 (and COMMENT2) fields help to track transaction information. The customer's street address (STREET) and ZIP should be passed to use address verification service. CVV2 is needed for card security code validation. For details on address verification service and card security code, see the following sections:

- [“Using Address Verification Service” on page 44](#)
- [“Card Security Code Validation” on page 46](#)

Submitting Authorization/Delayed Capture Transactions

An Authorization (TRXTYPE=A) transaction places a hold on the cardholder's open-to-buy limit, lowering the cardholder's limit by the amount of the transaction. It does not transfer funds.

A Delayed Capture (TRXTYPE=D) transaction is performed after an Authorization to capture the original Authorization amount. The Delayed Capture is scheduled for settlement during the next settlement period.

Because Visa and MasterCard regulations prohibit capturing credit card transaction funds until a product or service has shipped to the buyer, most processing networks implement an Authorization transaction followed by a Delayed Capture transaction.

When To Use Authorization/Delayed Capture Transactions

If your business does not provide immediate fulfillment of products or services, you should use this two-stage transaction solution, also known as *Delayed Capture processing*, because it enables you to capture credit card transaction funds when you are ready to collect them.

NOTE: If you signed up for the PayPal processor with Fraud Protection Services, you must use delayed capture processing for all sale transactions.

If your business provides immediate fulfillment and you are not using the PayPal processor with Fraud Protection Services, you can use a simple Sale transaction instead. For details, see [“Submitting Sale Transactions” on page 31](#). If you need to recharge a credit card and you are not storing the credit card information in your local database, you can perform a new reference transaction based on a Sale. For details, see [“Submitting Authorization/Delayed Capture Transactions” on page 32](#).

IMPORTANT: *Only one Delayed Capture transaction is allowed per Authorization transaction.*

Required Authorization Transaction Parameters

To perform an Authorization transaction, you are required to pass the following parameters:

ACCT
AMT
EXPDATE

Typical Authorization Transaction Parameter String

A typical parameter string passed in an Authorization transaction is the same as a Sale transaction string. The only difference is that the TRXTYPE value is A in an Authorization.

```
"TRXTYPE=A&TENDER=C&USER=SuperUser&PWD=SuperUserPassword&VENDOR=SuperUser  
&PARTNER=PayPal&ACCT=5105105105100&EXPDATE=1209&CVV2=123&AMT=99.00&
```



```
FNAME=Bill&LNAME=Smith&STREET=123 Main
St.&CITY=Anywhere&STATE=CA&ZIP=12345&COMMENT1=Reservation&INVNUM=1234567
890&PONUM=C12345&CVV2=567&VERBOSITY=MEDIUM"
```

Required Delayed Capture Transaction Parameters

To perform a Delayed Capture transaction, you are required to pass the following parameter:

ORIGID

Set ORIGID to the PNREF (Transaction ID in PayPal Manager reports) value returned from the original transaction. (For details on PNREF, see [Chapter 4, “Responses to Credit Card Transaction Requests”](#)) In addition, if the amount of the capture differs from the amount of the Authorization, you also must pass a value for AMT.

Fields Copied From the Authorization Transaction into the Delayed Capture Transaction

The following fields are copied from the Authorization transaction into the Delayed Capture transaction (if they exist in the original transaction). If you provide a new value for any of these parameters when submitting the Delayed Capture transaction, then the new value is used. (Exceptions are ACCT, EXPDATE, and SWIPE. These parameters retain their original values.).

ACCT	AMT	CITY	COMMENT1
COMMENT2	COMPANYNAME	BILLTOCOUNTRY	CUSTCODE
CUSTIP	DL	DOB	DUTYAMT
EMAIL	EXPDATE	FIRSTNAME	FREIGHTAMT
INVNUM	LASTNAME	MIDDLENAME	PONUM
SHIPTOCITY	SHIPTOCOUNTRY	SHIPTOFIRSTNAME	SHIPTOLASTNAME
SHIPTOMIDDLENAME	SHIPTOSTATE	SHIPTOSTREET	SHIPTO ZIP
SS	STATE	Street	SWIPE
TAXAMT	TAXEXEMPT	PHONENUM	ZIP

Step 1 Perform the Authorization transaction

The Authorization transaction uses the same parameters as Sale transactions, except that the transaction type is A.

The return data for an Authorization transaction is the same as for a Sale transaction. To capture the authorized funds, perform a Delayed Capture transaction that includes the value returned for PNREF, as described in [Step 2 on page 34](#).

EXAMPLE 3.1 Example Authorization Transaction Parameter String

Issue Authorization-only Transaction

```
"TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal
&VENDOR=SuperMerchant&USER=SuperMerchant&ACCT=555555555554444&EXPDATE=0308
&AMT=123.00&COMMENT1=Second purchase
&COMMENT2=Low risk customer&INNUM=123456789&STREET=5199 MAPLE&ZIP=94588"
```

EXAMPLE 3.2 Example Authorization Response

(Response parameters are described in detail in [Chapter 4, “Responses to Credit Card Transaction Requests”](#))

```
RESULT=0&PNREF=VXYZ01234567&RESPMSG=APPROVED&AUTHCODE=123456
&AVSADDR=Y&AVSZIP=N
```

Step 2 Perform the Delayed Capture transaction

Set ORIGID to the PNREF value returned the original Authorization transaction response string. (There is no need to retransmit the credit card or billing address information—it is stored at PayPal.)

If the capture succeeds, the amount of the Capture is transferred to the merchant’s account during the daily settlement process. If the capture does not succeed, the hold on the cardholder’s open-to-buy is still in effect.

EXAMPLE 3.3 Example Delayed Capture Transaction Parameter String

```
"TRXTYPE=D&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant
&USER=SuperMerchant&ORIGID=VXYZ00887892"
```

EXAMPLE 3.4 Example Delayed Capture Response

```
RESULT=0&PNREF=VXYZ00895642&AUTHCODE=25TEST&AVSADDR=Y&AVSZIP=N
```

Delayed Capture Transaction: Capturing Transactions for Lower Amounts

You can perform a Delayed Capture transaction for an amount lower than the original Authorization amount (useful, for example, when you make a partial shipment).

Delayed Capture Transaction: Capturing Transactions for Higher Amounts

You can perform a Delayed Capture transaction for an amount higher than the original Authorization amount, however, you are charged for an extra transaction. In addition, the cardholder’s open-to-buy is reduced by the sum of the original Authorization-only amount and the final Delayed Capture amount.

Delayed Capture Transaction: Error Handling and Retransmittal

If an error occurs while processing a Delayed Capture transaction, it is safe to retry the capture with values that allow the PayPal server to successfully process it. Conversely, if a capture for a previous Authorization succeeds, subsequent attempts to capture it again will return an error.

Submitting Voice Authorization Transactions

A Voice Authorization (TRXTYPE=F) transaction is a transaction that is authorized over the telephone from the processing network.

NOTE: The PayPal processor does not support Voice Authorization transactions.

When to Use a Voice Authorization Transaction

Some transactions cannot be authorized over the Internet (for example, high dollar amounts) and require manual authorization. These transactions generate Result Code 13 and are called Referral transactions.

In these situations, you contact the customer service department of your merchant bank and provide the payment information as requested. If the transaction is approved, the bank provides you with a voice Authorization code (AUTHCODE) for the transaction. You include this AUTHCODE as a parameter in a Voice Authorization transaction.

Once a Voice Authorization transaction has been approved, it is treated like a Sale transaction and is settled with no further action on your part.

Like Sale transactions, approved Voice Authorization transactions can be voided before settlement occurs.

Required Voice Authorization Transaction Parameters

To submit a Voice Authorization, you need to pass the following parameters:

AUTHCODE
ACCT
EXPDATE
AMT

Voice Authorization Parameter String

The following is an example Voice Authorization transaction parameter string:

```
"TRXTYPE=F&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&PWD=x1y2z3&AUTHCODE=AB34RT56&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00"
```

Submitting Credit Transactions

The Credit transaction (TRXTYPE=C) refunds the specified amount to the cardholder.

Required Credit Transaction Parameters

The required parameter data for a Credit transaction depends on the **Allow non-referenced credits** security setting for your Payflow Pro account. A *non-referenced* credit is a Credit transaction that does not use the credit card information from an existing transaction. Credit card information must be supplied. As an example, Sally Smith calls you on the telephone to cancel an order from your business. To refund her money, you credit her credit card by submitting a non-referenced Credit transaction.

NOTE: The PayPal processor does not support non-referenced credits.

Guidelines and parameter requirements for Credit transactions differ depending on whether or not non-referenced credits are allowed.

Non-Referenced Credits Not Allowed

When non-referenced credits are not allowed (the setting recommended by PayPal), then Credit transactions are permitted only against existing Sale, Delayed Capture, and Voice Authorization transactions. To submit a Credit transaction when non-referenced credits are not allowed, you must pass the following parameter:

ORIGID

Set the value of ORIGID to the PNREF value returned for the original transaction. (PNREF is displayed as the Transaction ID in PayPal Manager reports. For details on PNREF, see [Chapter 4, “Responses to Credit Card Transaction Requests.”](#)) If you do not specify an amount, then the amount of the original transaction is credited to the cardholder.

Non-Referenced Credits Allowed

When non-referenced credits are allowed, then Credit transactions are permitted in any amount up to the transaction limit for the credit card account that you specify. To submit a Credit transaction when non-referenced credits are not allowed, you must pass values for the following parameters:

ACCT
EXPDATE
AMT

IMPORTANT: *The default security setting for Payflow Pro accounts is **Allow non-referenced credits** = No, so sending the ORIGID is the preferred method for performing Credit transactions. Using the ACCT, EXPDATE, or AMT parameters for such accounts leads to Result code 117 (failed the security check). For information on setting the security settings, see PayPal Manager online help.*

Fields Copied From the Original Transaction into the Credit Transaction

The following fields are copied from the original transaction into the Credit transaction (if they exist in the original transaction). If you provide a new value for any of these parameters when submitting the Credit transaction, then the new value is used. (Exceptions are ACCT, EXPDATE, and SWIPE. These parameters retain their original values).

NOTE: These fields are not copied for referenced credits: TAXAMT, TAXEXEMPT, DUTYAMT, FREIGHTAMT, and (for AMEX only) DESC4.

NOTE: For processors that use the RECURRING parameter: If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming the Credit transaction.

ACCT	AMT	CITY	COMMENT1
COMMENT2	COMPANYNAME	BILLTOCOUNTRY	CUSTCODE
CUSTIP	DL	DOB	EMAIL
EXPDATE	FIRSTNAME	INVNUM	LASTNAME
MIDDLENAME	PONUM	SHIPTOCITY	SHIPTOCOUNTRY
SHIPTOFIRSTNAME	SHIPTOLASTNAME	SHIPTOMIDDLENAME	SHIPTOSTATE
SHIPTOSTREET	SHIPTOZIP	SS	STATE
STREET	SWIPE	PHONENUM	ZIP

Credit Transaction Parameter Strings

This is an example Credit transaction string (non-referenced credits not allowed):

```
"TRXTYPE=C&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant
&USER=SuperMerchant&PWD=x1y2z3&ORIGID=VPNE12564395"
```

This is an example Credit transaction string (non-referenced credits allowed):

```
"TRXTYPE=C&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant
&USER=SuperMerchant&PWD=x1y2z3&ACCT=555555555554444&EXPDATE=0308
&AMT=123.00"
```

Submitting Void Transactions

The Void transaction (TRXTYPE=V) prevents a transaction from being settled but does not release the Authorization (hold on funds) on the cardholder's account.

When To Use a Void Transaction

Follow these guidelines:

- You can void Delayed Capture, Sale, Credit, Authorization, and Voice Authorization transactions. You cannot void a Void transaction.
- You can only use a Void transaction on a transaction that has not yet settled. To refund a customer's money for a settled transaction, you must submit a Credit transaction.

Required Void Transaction Parameters

To submit a Void transaction, you must pass the following parameter:

ORIGID

Set ORIGID to the PNREF (Transaction ID in PayPal Manager reports) value returned for the original transaction. (For details on PNREF, see [Chapter 4, “Responses to Credit Card Transaction Requests.”](#))

Fields Copied From the Original Transaction into the Void Transaction

The following fields are copied from the original transaction into the Void transaction (if they exist in the original transaction). If you provide a new value for any of these parameters when submitting the Void transaction, then the new value is used. (Exceptions are ACCT, EXPDATE, and SWIPE. These parameters retain their original values).

NOTE: For processors that use the RECURRING parameter: If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming the Void transaction.

ACCT	AMT	CITY	COMMENT1
COMMENT2	COMPANYNAME	BILLTOCOUNTRY	CUSTCODE
CUSTIP	DL	DOB	DUTYAMT
EMAIL	EXPDATE	FIRSTNAME	FREIGHTAMT
INVNUM	LASTNAME	MIDDLENAME	PONUM
SHIPTOCITY	SHIPTOCOUNTRY	SHIPTOFIRSTNAME	SHIPTOLASTNAME
SHIPTOMIDDLENAME	SHIPTOSTATE	SHIPTOSTREET	SHIPTOZIP
SS	STATE	STREET	SWIPE
TAXAMT	TAXEXEMPT	PHONENUM	ZIP

Example Void Transaction Parameter String

This is an example Void transaction parameter string:

```
"TRXTYPE=V&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant
&USER=SuperMerchant&PWD=x1y2z3&ORIGID=VPNE12564395"
```

Submitting Inquiry Transactions

An Inquiry transaction (TRXTYPE=I) returns the result and status of a transaction.

When To Use an Inquiry Transaction

You perform an inquiry using a reference to an original transaction—either the PNREF value returned for the original transaction or the CUSTREF value that you specified for the original transaction.

While the amount of information returned in an Inquiry transaction depends upon the VERBOSITY setting, Inquiry responses mimic the verbosity level of the original transaction as much as possible. (For details on VERBOSITY, see [Appendix E, “Verbosity: Viewing Processor-Specific Transaction Results.”](#))

Required Parameters When Using the PNREF

To submit an Inquiry transaction when using the PNREF, you must pass the following parameter:

ORIGID

Set ORIGID to the PNREF (Transaction ID in PayPal Manager reports) value returned for the original transaction. (For details on PNREF, see [Chapter 4, “Responses to Credit Card Transaction Requests.”](#))

Inquiry Transaction Parameter String Using the PNREF

This is an example Inquiry transaction parameter string using the ORIGID parameter set to the PNREF value:

```
"TRXTYPE=I&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant  
&USER=SuperMerchant&PWD=x1y2z3&ORIGID=VPNE12564395"
```

Required Parameters When Using the CUSTREF

To submit an Inquiry transaction when using the PNREF, you must pass the following parameter:

CUSTREF

Optionally, specify the STARTTIME and ENDTIME parameters.

CAUTION! *If there are multiple transactions with a particular CUSTREF value, then the Inquiry transaction returns only the last transaction with the specified CUSTREF. So, to ensure that you can always access the correct transaction, you must use a unique CUSTREF when submitting any transaction, including retries.*

Inquiry Transaction Parameter String Using the CUSTREF

This is an example Inquiry transaction parameter string using the CUSTREF:

```
"TRXTYPE=I&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant  
&USER=SuperMerchant&PWD=x1y2z3&CUSTREF=Inv00012345"
```

Recharging to the Same Credit Card (Reference Transactions)

If you need to recharge a credit card and you are not storing the credit card information in your local database, you can perform a *reference* transaction. A reference transaction takes the existing credit card information that is on file and reuses it.

When To Use a Reference Transaction

Say that Joe Smith purchases a holiday gift from your web site store and requests that it be sent by UPS ground service. That evening, Joe becomes concerned that the item might not arrive in time for the holiday. So he calls you to upgrade shipping to second-day air. You obtain his approval for charging an extra \$10 for the upgrade. In this situation, you can create a reference transaction based on the original Sale and charge an additional \$10 to Joe's credit card without having to ask him again for his credit card information.

CAUTION! *As a security measure, reference transactions are disallowed by default. Only your account administrator can enable reference transactions for your account. If you attempt to perform a reference transaction in an account for which reference transactions are disallowed, result code 117 is returned. See PayPal Manager online help for instructions on setting reference transactions and other security features.*

Sale and Authorization transactions can make use of a reference transaction as a source of transaction data. PayPal looks up the reference transaction and copies its transaction data into the new Sale or Authorization transaction. With the exception of dollar amount data, which triggers a filter if out of range, reference transactions are not screened by Fraud Protection Services filters.

IMPORTANT: *When PayPal looks up the reference transaction, neither the transaction being referenced nor any other transaction in the database is changed in any way. That is, a reference transaction is a read-only operation—only the new transaction is populated with data and acted upon. No linkage is maintained between the reference transaction and the new transaction.*

You can also initiate reference transactions from PayPal Manager. See *PayPal Manager online help* for details.

Transaction Types that Can Be Used as the Original Transaction

You can reference the following transaction types to supply data for a new Sale or Authorization transaction:

- Authorization (To capture the funds for an approved Authorization transaction, be sure to perform a Delayed Capture transaction—**not** a Reference transaction.)
- Credit
- Delayed Capture
- Sale
- Voice Authorization (The Voice Authorization code is not copied to the new transaction)
- Void

NOTE: Express Checkout does not support referenced transactions for Authorizations or Sales. Only referenced transactions are supported for Voids, Delayed Captures, and Credits. For details on Express Checkout, see [Chapter 7, “PayPal Express Checkout Transaction Processing”](#)

Fields Copied From Reference Transactions

The following fields are copied from the reference transaction into the new Sale or Authorization transaction (if they exist in the original transaction). If you provide a value for any of these parameters when submitting the new transaction, then the new value is used.

ACCTTYPE	STREET
ACCT	CITY
EXPDATE	STATE
FIRSTNAME	ZIP
MIDDLENAME	BILLTOCOUNTRY
LASTNAME	SWIPE

Example Reference Transaction

In this example, you authorize an amount of \$100 for a shipment and charge \$66 for the first partial shipment using a normal Delayed Capture transaction. You charge the \$34 for the final part of the shipment using a reference transaction to draw credit card and shipping address information from the initial Authorization transaction.

Step 1 Submit the Initial transaction (Authorization in this example)

You use an Authorization transaction for the full amount of the purchase of \$100, for example:

```
"TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ACCT=55555555554444&EXPDATE=0308&AMT=100.00&INVMNUM=123456789&STREET=5199 MAPLE&ZIP=94588"
```

Note the value of the PNREF in the response:

```
RESULT=0&PNREF=VXYZ01234567&RESPMSG=APPROVED&AUTHCODE=123456&AVSADDR=Y&AVSZIP=N
```

Step 2 Capture the authorized funds for a partial shipment of \$66

When you deliver the first \$66 worth of product, you use a normal Delayed Capture transaction to collect the \$66. Set ORIGID to the value of PNREF in the original Authorization, for example:

```
"TRXTYPE=D&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ORIGID=VXYZ01234567&AMT=66.00"
```

```
RESULT=0&PNREF=VXYZ01234568&AUTHCODE=25TEST&AVSADDR=Y&AVSZIP=N
```

Step 3 Submit a new Sale transaction of \$34 for the rest of the shipment

Once you have shipped the remainder of the product, you can collect the remaining \$34 in a Sale transaction that uses the initial Authorization as a reference transaction. (This is a Sale transaction because only one Delayed Capture transaction is allowed per Authorization.) For example:

```
"TRXTYPE=S&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ORIGID=VXYZ01234567&AMT=34.00"
```

```
RESULT=0&PNREF=VXYZ01234569&AUTHCODE=25TEST&AVSADDR=Y&AVSZIP=N
```

NOTE: In the case that your business model uses the Authorization/Delayed Capture cycle for all transactions, you could have chosen to use an Authorization/Delayed Capture to collect the \$34 in this example. You would generate the Authorization for the \$34 using the initial Authorization as a reference transaction.

Submitting Card-Present (SWIPE) Transactions

Payflow Pro supports card-present transactions (face-to-face purchases).

NOTE: SWIPE (card-present) transactions are not supported by the PayPal processor.

Follow these guidelines to take advantage of the lower card-present transaction rate:

- Contact your merchant account provider to ensure that they support card-present transactions.
- Contact PayPal Customer Service to request having your account set up properly for accepting and passing swipe data.

- If you plan to process card-present as well as card-not-present transactions, set up two separate Payflow Pro accounts. Request that one account be set up for card-present transactions, and use it solely for that purpose. Use the other for card-not-present transactions. Using the wrong account may result in downgrades.
- A Sale is the preferred method to use for card-present transactions. Consult with your acquiring bank for recommendations on other methods.

Supported Processing Platforms

PayPal is certified to submit card-present transactions for the following processing platforms:

American Express Phoenix
First Data Merchant Services (FDMS) Nashville
First Data Merchant Services (FDMS) North
First Data Merchant Services (FDMS) South
Global Payments Central
Global Payments East
Nova
Paymentech New Hampshire
Paymentech Tampa
Vital

Card-present Transaction Syntax

Use the SWIPE parameter to pass the Track 1 or Track 2 data (the card's magnetic stripe information). Include either Track 1 or Track 2 data—not both (up to 80 alphanumeric characters). If Track 1 is physically damaged, the POS application can send Track 2 data instead.

The track data includes the disallowed = (equal sign) character. To enable you to use the data, the SWIPE parameter must include a length tag specifying the number of characters in the track data. For this reason, in addition to passing the track data, the POS application must count the characters in the track data and pass that number. Length tags are described in [“Using Special Characters in Values” on page 25](#). The length tag in the following example is **[40]**.

Do not include the ACCT or EXPDATE parameters in card-present transactions, as this data is included in the SWIPE value.

Example Card-present Transaction Parameter String

This is an example card-present transaction parameter string:

```
"TRXTYPE=S&TENDER=C&PARTNER=PayPal&USER=SuperMerchant&PWD=SuperMerchant&SWIPE[40]=;4912000033330026=15121011000012345678?&AMT=21.00"
```

Submitting Purchasing Card Transactions

A purchasing card (also referred to as a commercial card, corporate card, procurement card or business card) is a credit card that is issued at the request of an employer. It is usually reserved for business-related charges. The card issuer provides specialized reporting for this card type so the employer can monitor the use of the card. There is no method for determining whether a card is a purchase card or a commercial card based on the card number.

To obtain the best bank interchange rates for commercial cards, you must pass specific additional transaction information. Commercial card support and parameters vary from processor to processor. See [Appendix D, “Submitting Purchasing Card Level 2 and Level 3 Transactions”](#).

NOTE: Purchasing card transactions are not supported by the PayPal processor.

Using Address Verification Service

To qualify for the lowest bank rate, you must pass address verification service information—street address and ZIP (postal) code.

Address verification service compares the submitted billing street address and ZIP code with the values on file at the cardholder’s bank. The response includes values for AVSADDR and AVSZIP: Y, N, or X for the match status of the customer’s street address and ZIP code. Y = match, N = no match, X = cardholder’s bank does not support address verification service. The address verification service result is for advice only. Banks do not decline transactions based on the address verification service result—the merchant makes the decision to approve or decline a transaction. Address verification service is supported by most US banks and some international banks.

NOTE: Address verification service checks only for a street number match, not a street name match, so 123 Main Street returns the same response as 123 Elm Street.

The international address verification service response indicates whether address verification service response is international (Y), USA (N), or cannot be determined (X). SDK version 3.06 or later is required.

Processing Platforms Supporting Address Verification Service

Payflow Pro supports the address verification service as listed in Table 3.3

TABLE 3.3 *Processing platforms supporting AVS*

Processing Platform	American Express	Discover	MasterCard	Visa
American Express Phoenix	X	—	—	—

TABLE 3.3 Processing platforms supporting AVS

Processing Platform	American Express	Discover	MasterCard	Visa
American Express Brighton	X	—	—	—
FDMS Nashville	X	X	X	X
FDMS North	X	X	X	X
FDMS South	X	X	X	X
Global Payments Central	X	X	X	X
Global Payments East	X	X	X	X
Norwest	—	—	—	—
Nova	X	X	X	X
Paymentech New Hampshire	X	X	X	X
Paymentech Tampa	X	X	X	X
Vital	X	X	X	X

See your processor's information in [Appendix A, "Processors Requiring Additional Transaction Parameters"](#) for information on their handling of address verification service.

Example Address Verification Service Request Parameter List

This example request include the address verification service request parameters STREET and ZIP:

```
"TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00&STREET=5199 Maple&ZIP=98765"
```

Example Address Verification Service Response

In this example, the address value matches the value in the bank's records, but the ZIP code does not. The IAVS response is **X**.

```
RESULT=0&PNREF=VXW412345678&RESPMSG=APPROVED&AUTHCODE=123456&AVSADDR=Y&AVSZIP=N&IAVS=X
```

Card Security Code Validation

The card security code is a 3- or 4-digit number (not part of the credit card number) that is printed on the credit card. Because the card security code appears only on the card and not on receipts or statements, the card security code provides some assurance that the physical card is in the possession of the buyer.

This fraud prevention tool has various names, depending on the payment network. Visa calls it CVV2 and MasterCard calls it CVC2.. To ensure that your customers see a consistent name, PayPal recommends use of the term *card security code* on all end-user materials.

IMPORTANT: *To comply with credit card association regulations, do not store the CVV2 value.*

On most cards, the card security code is printed on the back of the card (usually in the signature field). All or part of the card number appears before the card security code (**567** in the example). For American Express, the 4-digit number (**1122** in the example) is printed on the front of the card, above and to the right of the embossed account number. Be sure to explain this to your customers.



Processing Platforms and Credit Cards Supporting Card Security Code

Even though your processor may be certified for card security code, they may not be certified for all card types (for example, Visa CVV2 or MasterCard CVC2). The list will change as PayPal continues to enhance its service offering.

American Express Card Security Code Enhancements

In a card-not-present environment, American Express recommends that you include the following information in your authorization message:

- Card member billing name
- Shipping information (SHIPTO* parameters) such as:
 - Address
 - Name
 - Shipping method
- Customer information such as:

- Email address
- IP address
- Host name
- Browser type
- Order information (such as product SKU)

Card Security Code Results

If you submit the transaction request parameter for card security code (that is, the CVV2 parameter), the cardholder's bank returns a Yes/No response in the CVV2MATCH response parameter, as described in the first table below. Card security code results vary depending on your processing platform, as described in the next table.

TABLE 3.4 *CVV2MATCH response values*

CVV2MATCH Value	Description
Y	The submitted value matches the data on file for the card.
N	The submitted value does not match the data on file for the card.
X	The cardholder's bank does not support this service.

TABLE 3.5 *Card security code results*

Processing Platform	Results
American Express Phoenix American Express Brighton	Card security code mismatches cause a non-approved result (RESULT = 114). No CVV2MATCH value is returned.
Vital Nova Global Payments – East Global Payments – Central Wells Fargo Merchant Payment Solutions	Card security code mismatches may cause a non-approved result (RESULT = 112 or 114) in some cases. In other cases, the transaction may be approved despite the card security code mismatch. The match or mismatch information is indicated in the CVV2MATCH value.
FDMS Nashville FDMS South Paymentech New Hampshire Paymentech Tampa	Transactions that have card security code mismatches can come back as an approved transaction (RESULT = 0). The match or mismatch information is indicated in the CVV2MATCH value. As with AVS, if the Authorization was successful, you must make a decision based on the CVV2MATCH value whether or not to proceed with the order.

Example CVV2 Request Parameter String

This example request parameter string includes the CVV2 parameter:

```
"TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&&ACCT=5555555555554444&EXPDATE=0308&AMT=123.00&CVV2=567"
```

EXAMPLE 3.1 Example CVV2MATCH Response

In this example result, the card security code value matches the value in the bank's records.

```
RESULT=0&PNREF=VXW412345678&RESPMSG=APPROVED&AUTHCODE=123456&CVV2MATCH=Y
```


4

Responses to Credit Card Transaction Requests

This chapter describes the contents of a response to a credit card transaction request.

When a transaction finishes, PayPal returns a response string made up of name-value pairs. For example, this is a response to a credit card Sale transaction request:

```
RESULT=0&PNREF=VXYZ01234567&RESPMSG=APPROVED&AUTHCODE=123456
&AVSADDR=Y&AVSZIP=N&IAVS=Y&CVV2MATCH=Y
```

Contents of a Response to a Credit Card Transaction Request

All transaction responses include values for RESULT, PNREF, RESPMSG. A value for AUTHCODE is included for Voice Authorization transactions. Values for AVSADDR and AVSZIP are included if you use AVS. [Table 4.1](#) describes the values returned in a response string.

TABLE 4.1 Transaction response values

Field	Description	Type	Length
PNREF	PayPal Reference ID, a unique number that identifies the transaction. PNREF is described in “PNREF Format” on page 50 .	Alpha-numeric	12
RESULT	The outcome of the attempted transaction. A result of 0 (zero) indicates the transaction was approved. Any other number indicates a decline or error. RESULT codes are described in “RESULT Codes and RESPMSG Values” on page 51 .	Numeric	Variable
CVV2MATCH	Result of the card security code (CVV2) check. The issuing bank may decline the transaction if there is a mismatch. In other cases, the transaction may be approved despite a mismatch.	Alpha Y, N, X, or no response	1
RESPMSG	The response message returned with the transaction result. Exact wording varies. Sometimes a colon appears after the initial RESPMSG followed by more detailed information. Response messages are described in “RESULT Codes and RESPMSG Values” on page 51 .	Alpha-numeric	Variable

TABLE 4.1 Transaction response values (Continued)

Field	Description	Type	Length
AUTHCODE	Returned for Sale, Authorization, and Voice Authorization transactions. AUTHCODE is the approval code obtained over the phone from the processing network. AUTHCODE is required when submitting a Force (F) transaction.	Alpha-numeric	6
AVSADDR	AVS address responses are for advice only. This process does not affect the outcome of the authorization. See “Using Address Verification Service” on page 44.	Alpha Y, N, X, or no response	1
AVSZIP	Vddress verification service ZIP code responses are for advice only. This process does not affect the outcome of the authorization. See “Using Address Verification Service” on page 44.	Alpha Y, N, X, or no response	1
IAVS	International AVS address responses are for advice only. This value does not affect the outcome of the transaction. Indicates whether AVS response is international (Y), US (N), or cannot be determined (X). Client version 3.06 or later is required. See “Using Address Verification Service” on page 44.	Alpha Y, N, X, or no response	1

PNREF Value

The PNREF is a unique transaction identification number issued by PayPal that identifies the transaction for billing, reporting, and transaction data purposes. The PNREF value appears in the Transaction ID column in PayPal Manager reports.

- The PNREF value is used as the ORIGID value (original transaction ID) in delayed capture transactions (TRXTYPE=D), credits (TRXTYPE=C), inquiries (TRXTYPE=I), and voids (TRXTYPE=V).
- The PNREF value is used as the ORIGID value (original transaction ID) value in reference transactions for authorization (TRXTYPE=A) and Sale (TRXTYPE=S).

NOTE: The PNREF is also referred to as the Transaction ID in PayPal Manager.

PNREF Format

The PNREF is a 12-character string of printable characters, for example:

- VADE0B248932

- ACRAF23DB3C4

NOTE: Printable characters also include symbols other than letters and numbers such as the question mark (?). A PNREF typically contains letters and numbers only.

The PNREF in a transaction response tells you that your transaction is connecting to PayPal.

Historically, the contents of a PNREF indicated a test or a live transaction:

- For test servers, the first and fourth characters were alpha characters (letters), and the second and third characters were numeric, for example: V53A17230645.
- For live servers, the first four characters were alpha characters (letters), for example: VPNE12564395.

However, this is not always the case, and as a rule, you should not place any meaning on the contents of a PNREF.

RESULT Codes and RESPMSG Values

RESULT is the first value returned in the response string. The value of the RESULT parameter indicates the overall status of the transaction attempt.

- A value of 0 (zero) indicates that no errors occurred and the transaction was approved.
- A value less than zero indicates that a communication error occurred. In this case, no transaction is attempted.
- A value greater than zero indicates a decline or error.

The response message (RESPMSG) provides a brief description for decline or error results.

RESULT Values for Transaction Declines or Errors

For non-zero Results, the response string includes a RESPMSG name-value pair. The exact wording of the RESPMSG (shown in **bold**) may vary. Sometimes a colon appears after the initial RESPMSG followed by more detailed information.

TABLE 4.2 Payflow transaction RESULT values and RESPMSG text

RESULT	RESPMSG and Explanation
0	Approved

TABLE 4.2 Payflow transaction **RESULT** values and **RESPMSG** text (Continued)

RESULT	RESPMSG and Explanation
1	User authentication failed. Error is caused by one or more of the following: <ul style="list-style-type: none"> • Login information is incorrect. Verify that USER, VENDOR, PARTNER, and PASSWORD have been entered correctly. • Invalid Processor information entered. Contact merchant bank to verify. • "Allowed IP Address" security feature implemented. The transaction is coming from an unknown IP address. See PayPal Manager online help for details on how to use Manager to update the allowed IP addresses. • You are using a test (not active) account to submit a transaction to the live PayPal servers. Change the URL from test-payflow.paypal.com to payflow.paypal.com.
2	Invalid tender type. Your merchant bank account does not support the following credit card type that was submitted.
3	Invalid transaction type. Transaction type is not appropriate for this transaction. For example, you cannot credit an authorization-only transaction.
4	Invalid amount format. Use the format: “#####.##” Do not include currency symbols or commas.
5	Invalid merchant information. Processor does not recognize your merchant account information. Contact your bank account acquirer to resolve this problem.
6	Invalid or unsupported currency code
7	Field format error. Invalid information entered. See RESPMSG.
8	Not a transaction server
9	Too many parameters or invalid stream
10	Too many line items
11	Client time-out waiting for response
12	Declined. Check the credit card number, expiration date, and transaction information to make sure they were entered correctly. If this does not resolve the problem, have the customer call their card issuing bank to resolve.
13	Referral. Transaction cannot be approved electronically but can be approved with a verbal authorization. Contact your merchant bank to obtain an authorization and submit a manual Voice Authorization transaction.
14	Invalid Client Certification ID. Check the HTTP header. If the tag, X-VPS-VIT-CLIENT-CERTIFICATION-ID, is missing, RESULT code 14 is returned.
19	Original transaction ID not found. The transaction ID you entered for this transaction is not valid. See RESPMSG.
20	Cannot find the customer reference number
22	Invalid ABA number

TABLE 4.2 Payflow transaction **RESULT** values and **RESPMSG** text (Continued)

RESULT	RESPMSG and Explanation
23	Invalid account number. Check credit card number and re-submit.
24	Invalid expiration date. Check and re-submit.
25	Invalid Host Mapping. You are trying to process a tender type such as Discover Card, but you are not set up with your merchant bank to accept this card type.
26	Invalid vendor account
27	Insufficient partner permissions
28	Insufficient user permissions
29	Invalid XML document. This could be caused by an unrecognized XML tag or a bad XML format that cannot be parsed by the system.
30	Duplicate transaction
31	Error in adding the recurring profile
32	Error in modifying the recurring profile
33	Error in canceling the recurring profile
34	Error in forcing the recurring profile
35	Error in reactivating the recurring profile
36	OLTP Transaction failed
37	Invalid recurring profile ID
50	Insufficient funds available in account
51	Exceeds per transaction limit
99	General error. See RESPMSG.
100	Transaction type not supported by host
101	Time-out value too small
102	Processor not available
103	Error reading response from host
104	Timeout waiting for processor response. Try your transaction again.
105	Credit error. Make sure you have not already credited this transaction, or that this transaction ID is for a creditable transaction. (For example, you cannot credit an authorization.)
106	Host not available
107	Duplicate suppression time-out

TABLE 4.2 Payflow transaction RESULT values and RESPMSG text (Continued)

RESULT	RESPMSG and Explanation
108	Void error. See RESPMSG. Make sure the transaction ID entered has not already been voided. If not, then look at the Transaction Detail screen for this transaction to see if it has settled. (The Batch field is set to a number greater than zero if the transaction has been settled). If the transaction has already settled, your only recourse is a reversal (credit a payment or submit a payment for a credit).
109	Time-out waiting for host response
111	Capture error. Either an attempt to capture a transaction that is not an authorization transaction type, or an attempt to capture an authorization transaction that has already been captured.
112	Failed AVS check. Address and ZIP code do not match. An authorization may still exist on the cardholder's account.
113	Merchant sale total will exceed the sales cap with current transaction. ACH transactions only.
114	Card Security Code (CSC) Mismatch. An authorization may still exist on the cardholder's account.
115	System busy, try again later
116	VPS Internal error. Failed to lock terminal number
117	Failed merchant rule check. One or more of the following three failures occurred: An attempt was made to submit a transaction that failed to meet the security settings specified on the PayPal Manager <i>Security Settings</i> page. If the transaction exceeded the Maximum Amount security setting, then no values are returned for AVS or CSC. AVS validation failed. The AVS return value should appear in the RESPMSG. CSC validation failed. The CSC return value should appear in the RESPMSG.
118	Invalid keywords found in string fields
122	Merchant sale total will exceed the credit cap with current transaction. ACH transactions only.
125	Fraud Protection Services Filter — Declined by filters
126	Fraud Protection Services Filter — Flagged for review by filters Important Note: Result code 126 indicates that a transaction triggered a fraud filter. This is not an error, but a notice that the transaction is in a review status. The transaction has been authorized but requires you to review and to manually accept the transaction before it will be allowed to settle. Result code 126 is intended to give you an idea of the kind of transaction that is considered suspicious to enable you to evaluate whether you can benefit from using the Fraud Protection Services. To eliminate result 126, turn the filters off. For more information, see the Fraud Protection Services documentation for your payments solution. It is available on the PayPal Manager Documentation page.

TABLE 4.2 Payflow transaction **RESULT** values and **RESPMSG** text (Continued)

RESULT	RESPMSG and Explanation
127	Fraud Protection Services Filter — Not processed by filters
128	Fraud Protection Services Filter — Declined by merchant after being flagged for review by filters
131	Version 1 Payflow Pro SDK client no longer supported. Upgrade to the most recent version of the Payflow Pro client.
150	Issuing bank timed out
151	Issuing bank unavailable
1000	Generic host error. This is a generic message returned by your credit card processor. The RESPMSG will contain more information describing the error.
1001	Buyer Authentication Service unavailable
1002	Buyer Authentication Service — Transaction timeout
1003	Buyer Authentication Service — Invalid client version
1004	Buyer Authentication Service — Invalid timeout value
1011	Buyer Authentication Service unavailable
1012	Buyer Authentication Service unavailable
1013	Buyer Authentication Service unavailable
1014	Buyer Authentication Service — Merchant is not enrolled for Buyer Authentication Service (3-D Secure).
1016	Buyer Authentication Service — 3-D Secure error response received. Instead of receiving a PARES response to a Validate Authentication transaction, an error response was received.
1017	Buyer Authentication Service — 3-D Secure error response is invalid. An error response is received and the response is not well formed for a Validate Authentication transaction.
1021	Buyer Authentication Service — Invalid card type
1022	Buyer Authentication Service — Invalid or missing currency code
1023	Buyer Authentication Service — merchant status for 3D secure is invalid
1041	Buyer Authentication Service — Validate Authentication failed: missing or invalid PARES
1042	Buyer Authentication Service — Validate Authentication failed: PARES format is invalid
1043	Buyer Authentication Service — Validate Authentication failed: Cannot find successful Verify Enrollment

TABLE 4.2 Payflow transaction RESULT values and RESPMSG text (Continued)

RESULT	RESPMSG and Explanation
1044	Buyer Authentication Service — Validate Authentication failed: Signature validation failed for PARES
1045	Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid amount in PARES
1046	Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid acquirer in PARES
1047	Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid Merchant ID in PARES
1048	Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid card number in PARES
1049	Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid currency code in PARES
1050	Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid XID in PARES
1051	Buyer Authentication Service — Validate Authentication failed: Mismatched or invalid order date in PARES
1052	Buyer Authentication Service — Validate Authentication failed: This PARES was already validated for a previous Validate Authentication transaction

RESULT Values for Communications Errors

A value for RESULT less than zero indicates that a communication error occurred. In this case, no transaction is attempted.

A value of -1 or -2 usually indicates a configuration error caused by an incorrect URL or by configuration issues with your firewall. See step 3 of [“Preparing the Payflow Client Application” on page 19](#) for information on firewall configuration.

A value of -1 or -2 can also be possible if the PayPal servers are unavailable, or an incorrect server/socket pair has been specified. A value of -1 can also result when there are Internet connectivity errors. Contact customer support regarding any other errors.

NOTE: Details of the response message may vary slightly depending on your SDK integration.

TABLE 4.3 RESULT values for communications errors

RESULT	Description
-1	Failed to connect to host

TABLE 4.3 *RESULT values for communications errors (Continued)*

RESULT	Description
-2	Failed to resolve hostname
-5	Failed to initialize SSL context
-6	Parameter list format error: & in name
-7	Parameter list format error: invalid [] name length clause
-8	SSL failed to connect to host
-9	SSL read failed
-10	SSL write failed
-11	Proxy authorization failed
-12	Timeout waiting for response
-13	Select failure
-14	Too many connections
-15	Failed to set socket options
-20	Proxy read failed
-21	Proxy write failed
-22	Failed to initialize SSL certificate
-23	Host address not specified
-24	Invalid transaction type
-25	Failed to create a socket
-26	Failed to initialize socket layer
-27	Parameter list format error: invalid [] name length clause
-28	Parameter list format error: name
-29	Failed to initialize SSL connection
-30	Invalid timeout value
-31	The certificate chain did not validate, no local certificate found
-32	The certificate chain did not validate, common name did not match URL
- 40	Unexpected Request ID found in request.
- 41	Required Request ID not found in request
-99	Out of memory

TABLE 4.3 *RESULT values for communications errors (Continued)*

RESULT	Description
-100	Parameter list cannot be empty
-103	Context initialization failed
-104	Unexpected transaction state
-105	Invalid name value pair request
-106	Invalid response format
-107	This XMLPay version is not supported
-108	The server certificate chain did not validate
-109	Unable to do logging
-111	The following error occurred while initializing from message file: <Details of the error message>
-113	Unable to round and truncate the currency value simultaneously

5

Testing Payflow Pro Credit Card Transactions

To test your application, direct all transactions to **test-payflow.verisign.com**. Transactions directed to this URL are processed through PayPal's simulated payment network, enabling you to test the configuration and operation of your application or storefront — no money changes hands. (You must activate your account and configure your application for live transactions before accepting real orders.)

Testing Guidelines

- While testing, use only the credit card numbers listed in this chapter. Other numbers produce an error.
- **Expiration Date** must be a valid date in the future (use the **mmyy** format).
- To view the credit card processor that you have selected for testing, see **Account Info > Processor Info** in PayPal Manager.

Credit Card Numbers Used for Testing

Use the following credit card numbers for testing. Any other card number produces a general failure.

TABLE 5.1 *Test credit card numbers*

American Express	378282246310005
American Express	371449635398431
Amex Corporate	378734493671000
Australian BankCard	5610591081018250
Diners Club	30569309025904
Diners Club	38520000023237
Discover	6011111111111117
Discover	6011000990139424
JCB	3530111333300000
JCB	3566002020360505
MasterCard	5555555555554444

TABLE 5.1 Test credit card numbers

MasterCard	5105105105105100
Visa	4111111111111111
Visa	4012888888881881
Visa	422222222222

NOTE: Even though this number has a different character count than the other test numbers, it is the correct and functional number.

Testing Result Codes Responses

You can use the amount of the transaction to generate a particular Result code. [Table 5.2](#) lists the general guidelines for specifying amounts. Table 5.2 lists PayPal result codes that are supported by this testing mechanism.

NOTE: For all Processors except Global Payments Central (MAPP) and FDRA: Credit (C) and Force (F) transactions will always be approved regardless of dollar amount or card number.

TABLE 5.2 Result codes resulting from amount submitted

Amount	Result (RESPMSG)
\$0 – \$1000	0 (Approved)
\$1001 – \$2000	Certain amounts in this range will return specific PayPal result codes, and can be generated by adding \$1000 to that result code. For example, for Result 13 (Referral), submit the amount 1013. If the amount is in this range but does not correspond to a PayPal result code supported by this testing mechanism, result 12 (Declined) is returned.
\$2001+	12 – Decline

PayPal Result Codes Returned Based on Transaction Amount

This table lists the Result codes that you can generate using the amount of the transaction. To generate a specific code, submit an amount of 1000 plus the code number (for example, submit an amount of **1013** for a Result code of **13**).

Alternative Methods for Generating Specific Result Codes

TABLE 5.3 *Result codes supporting the amount control*

Processing Platform	Result Codes Available for Testing
American Express Phoenix American Express Brighton	0, 12, 13, 104, 1000
First Data Merchant Services Nashville	0, 12, 13, 104
First Data Merchant Services South	0, 12, 13, 104
Global Payments Central	0, 4, 5, 8, 12, 13, 23, 24, 104, 111, 114, 1000
Global Payments East	0, 4, 5, 12, 13, 23, 24, 30, 100, 104, 114, 1000
Nova	0, 12, 13, 104
Paymentech New Hampshire	0, 12, 13, 104
Vital	0, 4, 12, 13, 23, 104, 114, 1000

This table shows another method for obtaining PayPal result codes. Non-zero results from processors are not returned by PayPal's servers, and therefore cannot be simulated using the amount. In some cases, you may get certain results using the result code plus 1000 even though this table suggests another means of obtaining the result code.

TABLE 5.4 *Obtaining PayPal result code*

Result	Definition	How to test using Payflow Pro
0	Approved	Use an AMOUNT of \$1000 or less For all Processors except Global Payments Central (MAPP) and FDRA: Credit (C) and Force (F) transactions will always be approved regardless of dollar amount or card number.
1	User authentication failed	Use an invalid PWD
2	Invalid tender	Use an invalid TENDER, such as G
3	Invalid transaction type	Use an invalid TRXTYPE, such as G
4	Invalid amount	Use an invalid AMOUNT, such as -1
5	Invalid merchant information	Use an AMOUNT of 1005. Applies only to the following processors: Global Payments East and Central, and American Express).
7	Field format error	Submit a Delayed Capture transaction with no ORIGID
12	Declined	Use an AMOUNT of 1012 or an AMOUNT of 2001 or more
13	Referral	Use an AMOUNT of 1013
19	Original transaction ID not found	Submit a Delayed Capture transaction with an invalid ORIGID

TABLE 5.4 *Obtaining PayPal result code* (Continued)

Result	Definition	How to test using Payflow Pro
22	Invalid ABA number	Applies only to ACH transactions – submit an invalid ABA number (8 digits)
23	Invalid account number	Submit an invalid account number, for example, 0000000000000000
24	Invalid expiration date	Submit an invalid expiration date, for example, 0298
25	Transaction type not mapped to this host (Processor)	Submit a transaction for a card or tender you are not currently set up to accept, for example, a Diners card if you aren't set up to accept Diners.
29	Invalid XML document	Pass a bad XML document (XMLPay users only).
30	Duplicate Transaction	Use an AMOUNT of 1030. Only applies to Global Payments East and Central processors.
50	Insufficient funds available	Use an amount of 1050. Only applies to Paymentech.
99	General error	Use an AMOUNT of 1099. Only applies to Global Payments East.
100	Invalid transaction returned from host (Processor)	Use an AMOUNT of 1100. Only applies to Global Payments East and Central.
101	Time-out value too small	Set timeout value to 1.
103	Error reading response from host (Processor)	Use an AMOUNT of 1103.
104	Timeout waiting for processor response	Use an AMOUNT of 1104.
105	Credit error	Attempt to credit an authorization.
108	Void error	Attempt to void a captured authorization.
111	Capture error	Capture an Authorization transaction twice or attempt to capture a transaction that is not an Authorization transaction.
112	Failed AVS check	You cannot generate this RESULT value by submitting an amount of 1112, but must submit a value for AVS that will fail. In production, this error occurs only if your account is configured by PayPal customer service to use the “AVS Deny” feature.
113	Cannot exceed sales cap	Applies to ACH transactions only.
114	CVV2 Mismatch	Use an AMOUNT of 1114. Only applies to Vital and Global Payments East and Central processors.
1000	Generic Host (Processor) Error	Use an AMOUNT of 2000. Does not apply to Nova, American Express, or Global Payments East processors.

Testing AVS

The PayPal testing server simulates AVS by returning a value for AVSADDR based on the first three characters of the submitted value for STREET.

The testing server returns a value for **AVSZIP** based on the submitted ZIP value as shown in the table.

If STREET starts with 667 or higher or begins with a non-numeric character, then the simulator returns AVSADDR=X, AVSZIP=X.

TABLE 5.5 Testing AVSADDR

Submitted Value for STREET	Example STREET Value	AVSADDR Result
000-333	24285 Elm	Y
334-666	49354 Main	N
667 or higher or begins with a non-numeric character	79232 Maple	X

TABLE 5.6 Testing AVSZIP

Submitted Value for ZIP	Example ZIP Value	AVSZIP Result
00000-50000	00382	Y
50001-99999	94303	N
Any value (if street address is 667 or higher or begins with a non-numeric character)	STREET=79232 Maple, ZIP=20304	X

Testing Card Security Code

If you submit a value for the card security code, the cardholder's bank returns a **Yes / No / Not Supported (Y / N / X)** response on whether the value matches the number on file at the bank. Card security code is described in [“Card Security Code Validation” on page 46](#).

NOTE: Some processors will decline (result code 12) a transaction if the card security code does not match without returning a CVV2MATCH value. Test the results and check with your processor to determine whether they support card security code checking.

For the testing server, the first three characters of the CVV2 value determine the CVV2MATCH result, as shown here.

TABLE 5.7 Testing CVV2MATCH

CVV2 Value	CVV2MATCH Value
000	Null

TABLE 5.7 Testing CVV2MATCH

CVV2 Value	CVV2MATCH Value
001-300	Y
301-600	N
601 or higher	X

Testing TeleCheck Transactions

See [Appendix B, “Performing TeleCheck Electronic Check Transactions,”](#) for information on testing TeleCheck transactions.

6

Activating Your Payflow Pro Account

When you are ready to activate your Payflow Pro account to begin submitting live transactions, follow these steps:

1. Log in to PayPal Manager at <https://manager.paypal.com>.
2. Click the **Click Here to Activate** button and follow the on-screen instructions.
3. Change the URL within your Web or desktop application to point to the live PayPal payment servers. Change **test-payflow.verisign.com** to **payflow..com**.

Even though the account is now active (live), you can test and process live transactions at the same time, depending on the URL used. For example, a development server can point to test-payflow.verisign.com while a production server points to payflow.verisign.com.

7

PayPal Express Checkout Transaction Processing

This chapter provides guidelines on how to implement PayPal Express Checkout through the Payflow SDK. The chapter introduces you to this feature and provides the information you need to get started integrating it into your website application.

For additional information about Express Checkout, see the *PayPal Website Payments Pro Integration Guide* at the following URL:

https://www.paypal.com/en_US/pdf/PP_APIReference.pdf

In this Chapter

- “What Is Express Checkout?” on page 67
- “How Express Checkout Works” on page 67
- “Handling Express Checkout Transactions Through the Payflow SDK” on page 69
- “Express Checkout Sale Transaction Example” on page 70
- “Express Checkout Transaction Parameter Descriptions” on page 74
- “Express Checkout Transaction Parameter Descriptions” on page 74
- “Testing Express Checkout” on page 85

What Is Express Checkout?

Express Checkout offers your customers an easy, convenient checkout experience. It lets them use shipping and billing information stored securely at PayPal to check out, so they don’t have to re-enter it on your site.

From the perspective of website development, Express Checkout works like other Payflow Pro features. You submit transaction information to the server as name-value pair parameter strings.

NOTE: This chapter assumes that you are familiar with the basic transaction parameters required in all Payflow Pro transactions. See [Chapter 3, “Performing Credit Card Transactions,”](#) for details on these parameters.

How Express Checkout Works

[Figure 7.1](#) summarizes the PayPal Express Checkout process.

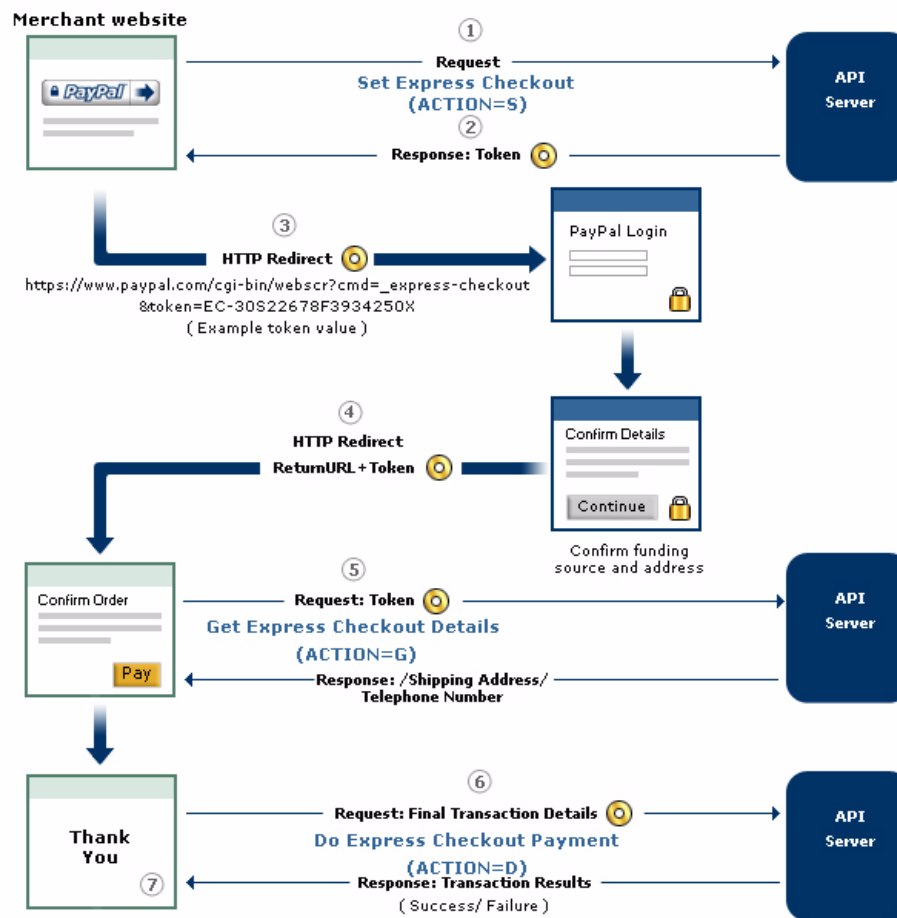
FIGURE 7.1 Customer checkout sequence

Figure 7.1 shows a typical set of web pages representing your merchant website. The PayPal logo is used by the customer to choose PayPal as their method of payment. Express Checkout gives you the flexibility to put this PayPal button graphic first in your checkout process—or on your billing page with other payment options.

The web page layout may differ somewhat from your own web design, but the points at which the Express Checkout calls are made and when the customer is redirected to PayPal and back to your website are important to understand. The events that take place at each numbered step in the figure are described below:

1. On your website when your customer chooses to pay with PayPal, you submit a Set Express Checkout request.
2. The server sends back a token, a string value to track your customer throughout the checkout process.
3. You direct your customer to the PayPal site, where they log in, select a funding source, and confirm contact and shipping information. Express Checkout includes parameters that you

can use to customize the PayPal pages so they match characteristics of your own website. For example, you can provide your own logo and colors. These parameters are described in [“Set Express Checkout Request Parameters” on page 74](#).

4. When your customer clicks the “Continue” button, PayPal sends them back to your site at the return URL you specified in the Set Express Checkout request. The token is appended to the URL to identify the customer.
5. Optionally you can send the Get Express Checkout Details request to obtain details about your customer such as the customer’s telephone number and shipping address. You send the token to identify the customer. The server returns the requested information.
6. When your customer clicks the “Pay” button, you submit the Do Express Checkout Payment request to perform the actual payment transaction. The server returns the transaction result.

Handling Express Checkout Transactions Through the Payflow SDK

Through a set of name-value pair strings, you provide Express Checkout transaction data to the server. The server responds with RESULT and RESPMSG values, along with other response parameter data about a transaction.

The Payflow SDK supports the following transaction types for Express Checkout:

- Sale
- Authorization
- Void
- Delayed Capture
- Credit

For all of these transactions, use the PayPal TENDER value P.

Sale and Authorization Transactions

Express Checkout Sale and Authorization transactions are handled a little differently than described in [Chapter 3, “Performing Credit Card Transactions.”](#) Unlike a Payflow Pro credit card Sale or Authorization transaction, which is done with a single request/response pair, an Express Checkout Sale or Authorization requires that you make at least two requests: a Set Express Checkout and a Do Express Checkout. (A third request, Get Express Checkout Details, also is supported but is optional.)

Do Express Checkout does the actual money transfer. The associated Set and Get requests provide supporting data. To associate a Set or Get request with a particular Sale or Authorization, you must pass an ACTION parameter with the respective value, S or G. [Table 7.1](#) summarizes the ACTION values and transaction types

NOTE: Express Checkout does not support reference transactions for Sales and Authorizations..

TABLE 7.1 Mapping Express Checkout requests to ACTION values

Request	TRXTYPE	ACTION
Set Express Checkout	Identifies the transaction. S = Sale A = Authorization	Is S (for Set Express Checkout)
Get Express Checkout Details	Identifies the transaction. S = Sale A = Authorization	Is G (for Get Express Checkout Details)
Do Express Checkout Payment	Identifies the transaction. S = Sale A = Authorization	Is D (for Do Express Checkout Payment)

Void, Delayed Capture, and Credit Transactions

You perform Void, Delayed Capture, and Credit transactions as described in [Chapter 3, “Performing Credit Card Transactions,”](#) using the PayPal tender type P. Additional Express Checkout data parameters that you can use in these transaction types are described in the following sections:

- “Void Transaction Parameters” on page 84
- “Delayed Capture Transaction Parameters” on page 84
- “Credit Transaction Parameters” on page 85

NOTE: Express Checkout supports reference transactions for Void, Delayed Capture, and Credit transactions.

Express Checkout Sale Transaction Example

This section provides an example of a Sale transaction.

All required and optional Express Checkout transaction parameters are described in [“Express Checkout Transaction Parameter Descriptions” on page 74.](#)

Set Express Checkout (ACTION=S)

The Set Express Checkout request passes the transaction details from your website to PayPal when a customer chooses to pay with PayPal.

In addition to the parameter values required by all transaction types (that is, TRXTYPE, TENDER, PARTNER, VENDOR, USER, and PWD described in [Chapter 3, “Performing](#)

[Credit Card Transactions](#)”), Set Express Checkout requires that you pass data for the following parameters.

ACTION
AMT
RETURNURL
CANCELURL

NOTE: You provide appropriate values for **partner**, **vendor**, **user**, and **pwd**, as you would for any transaction.

This is an example Set Express Checkout request parameter string for a Sale transaction:

EXAMPLE 7.1 Set Express Checkout Sale request

```
"TRXTYPE=S&ACTION=S&AMT=35.00&CANCELURL=http://www.order_page.com&CUSTOM=TRV14459&EMAIL=buyer_name@aol.com&PARTNER=partner&PWD=pwd&RETURNURL=http://www.confirmation_page.com&TENDER=P&USER=user&VENDOR=vendor"
```

It is strongly recommended that RETURNURL be the URL of the final review page on your website where the customer confirms the order and payment. Likewise, CANCELURL should be the URL of the original page on your website where the customer initially chose to use PayPal.

EXAMPLE 7.2 Set Express Checkout response

```
RESULT=0&RESPMSG=Approved&TOKEN=EC-17C76533PL706494P
```

Besides the Payflow Pro return values (RESULT, RESPMSG) described in [Chapter 4](#), “Responses to Credit Card Transaction Requests,” the response includes a TOKEN value. You use the token to refer to this particular transaction in the following requests to PayPal (as shown in [Figure 7.1](#) on [page 68](#)).

- In the HTTP request to redirect the customer’s browser to the PayPal web site (described in “Redirecting the Customer to Your Website Example” on [page 73](#)).
- In the Get Express Checkout Details request to obtain the customer’s billing information (described in “Redirecting the Customer to PayPal Example” on [page 71](#)).
- In the Do Express Checkout Payment request to carry out the transaction (described in “Do Express Checkout Payment (ACTION=D)” on [page 73](#).)

Redirecting the Customer to PayPal Example

After your buyer clicks the PayPal button and you submit the Set Express Checkout request, you will want to automatically direct your customer to the PayPal website. The redirect URL for this is:

```
"https://www.paypal.com/cgi-bin/webscr?cmd=_express-checkout&token=<TOKEN>"
```

where TOKEN is the value returned in the Set Express Checkout response.

PayPal recommends that you use the HTTPS response 302 “Object Moved” with your URL as the value of the Location header in the HTTPS response. Alternately, you can generate a web

page for your buyer that includes a META REFRESH tag in the header. An example is shown below. Remember to replace <TOKEN> with the token value that you received in the Set Express Checkout response.

EXAMPLE 7.3 *Generating a web page with a META REFRESH tag*

```
<html>
<head>
  <META HTTP-EQUIV="Refresh"CONTENT="0;URL=https://www.paypal.com/cgi-
bin/webscr?cmd=_express-checkout&token=<TOKEN>">
</head>

<body>
  <!-- Most buyers will see the text below for less than a second. -->
  <!-- Some browser types (example, cell phone)do not support META refresh tags. -->

  <a href="https://www.paypal.com/cgi-bin/webscr?cmd=_express-
checkout&token=<TOKEN>"Click here if you are not redirected to PayPal within 5
seconds.</a>
</body>
</html>
```

Get Express Checkout Details (ACTION=G)

The Get Express Checkout Details request enables you to retrieve the customer's billing information, such as the shipping address and email address. If you use Get Express Checkout Details, in addition to the parameter values required by all transaction types (that is, TRXTYPE, TENDER, PARTNER, VENDOR, USER, and PWD described in [Chapter 3, "Performing Credit Card Transactions"](#)), you need to pass data for these parameters.

ACTION
TOKEN

EXAMPLE 7.4 *Get Express Checkout Details request parameter string*

```
"TRXTYPE=S&VENDOR=vendor&USER=user&PWD=pwd&TENDER=P&PARTNER=partner&COMMENT
1=&ACTION=G&TOKEN=EC-17C76533PL706494P"
```


EXAMPLE 7.5 Get Express Checkout Details response

```
RESULT=0&RESPMSG=Approved&AVSADDR=Y&TOKEN=EC-
17C76533PL706494P&PAYERID=FHY4JXY7CV9PG&EMAIL=buyer_name@aol.com&PAYERSTATU
S=verified&CUSTOM=TRVV14459&FIRSTNAME=Chris&LASTNAME=Alexander&BUSINESS=Mon
roe Creek Regional Interiors&SHIPTOSTREET=5262 Green Street
#8&SHIPTOCITY=San Jose&SHIPTOSTATE=CA&SHIPTOZIP=95148&SHIPTOCOUNTRY=US
```

Redirecting the Customer to Your Website Example

PayPal redirects the customer back to your website at the location you specified in the RETURNURL parameter to Get Express Checkout request. To the URL string, PayPal appends the PAYERID name-value pair, as shown below:

```
http://[RETURNURL]/?PayerID=<PAYERID>
```

You need to pass the PAYERID in the Do Express Checkout Payment request, described next.

Do Express Checkout Payment (ACTION=D)

The Do Express Checkout Payment request performs the actual money transfer of the Sale transaction.

In addition to the parameter values required by all transaction types (that is, TRXTYPE, TENDER, PARTNER, VENDOR, USER, and PWD described in [Chapter 3, “Performing Credit Card Transactions”](#)), the Do Express Checkout Payment request requires that you pass data for these parameters.

```
ACTION
TOKEN
PAYERID
AMT
```

EXAMPLE 7.6 Do Express Checkout Payment request parameter string

```
"TRXTYPE=S&VENDOR=vendor&USER=user&PWD=pwd&TENDER=P&PARTNER=partner&COMMENT
1=&ACTION=D&TOKEN=EC-17C76533PL706494P&PAYERID=FHY4JXY7CV9PG&AMT=35.00"
```

EXAMPLE 7.7 Do Express Checkout Payment response

```
RESULT=0&PNREF=EFHP0CDBF5C7&RESPMSG=Approved&AVSADDR=Y&TOKEN=EC-
17C76533PL706494P&PAYERID=FHY4JXY7CV9PG&PPREF=2P599077L3553652G&PAYMENTTYPE
=instant
```

The response returns a 12-character PNREF (PayPal Manager Transaction ID) that is used by PayPal to identify this transaction in PayPal Manager reports. The PPREF value (maximum of 17-characters) is used by PayPal only to identify this transaction.

Express Checkout Transaction Parameter Descriptions

Sale and Authorization Transaction Parameters

Set Express Checkout Request Parameters

Table 7.3 lists all the required and optional Set Express Checkout request parameters.

TABLE 7.2 Set Express Checkout request parameters

Parameter Name	Description	Required	Type	Max. Length
TOKEN	Include this parameter to modify an existing Sale or Authorization request. The value is returned in a previous Set Express Checkout response.	No	String	20
AMT	Amount (US Dollars) U.S. based currency. No currency symbol. Specify the exact amount to the cent using a decimal point—use 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95.	Yes	Numeric USD only	10 (with decimal)
MAXAMT	The expected maximum total amount of the complete order, including shipping and tax charges.	No	Numeric	9
ORDERDESC	Description of items the customer is purchasing.	No	Alphanumeric	127
CUSTOM	Free-form field for your own use such as a tracking number or other value you want PayPal to return in the Get Express Checkout Details response.	No	Alphanumeric	256
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alphanumeric	9

TABLE 7.2 Set Express Checkout request parameters

Parameter Name	Description	Required	Type	Max. Length
RETURNURL	URL to which the customer's browser is returned after choosing to pay with PayPal. Note: PayPal recommends that the value of ReturnURL be the final review page on which the customer confirms the order and payment.	Yes	String	No max length
CANCELURL	URL to which the customer is returned if the customer does not approve the use of PayPal to pay you. Note: PayPal recommends that the value of CancelURL be the original page on which the customer chose to pay with PayPal.	Yes	String	No max length
SHIPTOSTREET	Shipping Address. Note: If you include a shipping address and provide a value for the AddressOverride (ADDROVERRIDE) parameter, PayPal returns this same address in the Get Express Checkout Details response.	Yes	String	30
SHIPTOSTREET2	Extended shipping address. Example: Bldg. 6, Mail Stop 3.	No	String	30
SHIPTOCITY	Ship-to city	Yes	String	40
SHIPTOSTATE	Ship-to state	Yes	String	10
SHIPTOZIP	Ship-to postal code (called ZIP code in the USA)	Yes	String	16
SHIPTOCOUNTRY	Ship-to country	Yes	String	
REQCONFIRMSHIPPING	Is 1 or 0. The value 1 indicates that you require that the customer's shipping address on file with PayPal be a confirmed address. Setting this element overrides the setting you have specified in your Merchant Account Profile.	No	String	1
NOSHIPPING	Is 1 or 0. The value 1 indicates that on the PayPal pages, no shipping address fields should be displayed whatsoever.	No	String	4

TABLE 7.2 Set Express Checkout request parameters

Parameter Name	Description	Required	Type	Max. Length
ADDROVERRIDE	Is 1 or 0. The value 1 indicates that the PayPal pages should display the shipping address set by you in the shipping address (SHIPTO* parameters) passed to this Set Express Checkout request, not the shipping address on file with PayPal for this customer. Displaying the PayPal street address on file does not allow the customer to edit that address.	No	String	4
LOCALECODE	Locale of pages displayed by PayPal during Express Checkout.	No	Alpha upper- or lowercase AU or en_AU DE or de_DE FR or fr_FR GB or en_GB IT or it_IT JP or ja_JP US or en_US	5
PAGESTYLE	Sets the Custom Payment Page Style for payment pages associated with this button/link. PageStyle corresponds to the HTML variable page_style for customizing payment pages. The value is the same as the Page Style Name you chose when adding or editing the page style from the Profile subtab of the My Account tab of your PayPal account.	No	Alpha	30
HDRIMG	A URL for the image you want to appear at the top left of the payment page. The image has a maximum size of 750 pixels wide by 90 pixels high. PayPal recommends that you provide an image that is stored on a secure (https) server.	No	String	127

TABLE 7.2 Set Express Checkout request parameters

Parameter Name	Description	Required	Type	Max. Length
HDRBORDERCOLOR	Sets the border color around the header of the payment page. The border is a 2-pixel perimeter around the header space, which is 750 pixels wide by 90 pixels high.	No	String HTML hexadecimal color code in ASCII	6
HDRBACKCOLOR	Sets the background color for the header of the payment page.	No	String HTML hexadecimal color code in ASCII	6
COLOR	Sets the background color for the payment page.	No	String HTML hexadecimal color code in ASCII	6
ACTION	Is S to indicate this is a Set Express Checkout request.	Yes	Alpha	1
EMAIL	Email address of the customer as entered during checkout. PayPal uses this to pre-fill the PayPal membership sign-up portion of the PayPal login page.	No	Alphanumeric	127

Set Express Checkout Response Parameters**TABLE 7.3 Set Express Checkout response parameters**

Parameter Name	Description	Type	Max. Length
TOKEN	A time-stamped token by which you identify to PayPal that you are processing this payment with Express Checkout. The token expires after three hours. If you set TOKEN in the Set Express Checkout request, the value of TOKEN in the response is identical to the value in the request.	String	20

Get Express Checkout Details Request Parameters

Table 7.5 describes the Get Express Checkout Details request TOKEN parameter.

TABLE 7.4 *Get Express Checkout Details request parameters*

Parameter Name	Description	Required	Type	Max. Length
ACTION	Is G to indicate this is a Get Express Checkout Details request	Yes	Alpha	1
TOKEN	String value returned by the Set Express Checkout response.	Yes	String	20

Get Express Checkout Details Response Parameters

Table 7.6 lists all the Get Express Checkout Details response parameters.

TABLE 7.5 *Get Express Checkout Details response parameters*

Parameter Name	Description	Type	Max. Length
TOKEN	String value returned by Set Express Checkout response.	String	20
SHIPTOSTREET	Shipping Address. Note: If you include a shipping address and provide a value for the AddressOverride (ADDROVERRIDE) parameter, PayPal returns this same address in the Get Express Checkout Details response.	String	30
SHIPTOSTREET2	Extended shipping address. Example: Bldg. 6, Mail Stop 3.	String	30
SHIPTOCITY	Ship-to city.	String	SHIPTOSTREET2
SHIPTOSTATE	Ship-to state.	String	10
SHIPTOZIP	Ship-to postal code (called ZIP code in the USA).	String	16
SHIPTOCOUNTRY	(See Appendix G, “ISO Country Codes”). NOTE: Currently US is the only country code supported.	String	
EMAIL	Email address of the customer as entered during checkout.	Alphanumeric	127
SHIPTOBUSINESS	Customer’s business name.	String	127

TABLE 7.5 Get Express Checkout Details response parameters

Parameter Name	Description	Type	Max. Length
SHIPTOCOUNTRYCODE	Customer's country of residence in the form of ISO standard 3166 two-character country codes. NOTE: Currently US is the only country code supported.	String	2
PAYERID	Unique encrypted PayPal customer account identification number.	String	17
PAYERSTATUS	Status of customer. Values are: verified unverified	Alpha	10
CUSTOM	Free-form field for your own use as set by you in the Set Express Checkout request.	Alphanumeric	256
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted. INVNUM must be unique for each transaction to prevent processing the same order twice.	Alphanumeric	9
PHONENUM	Account holder's telephone number. See "Obtaining the Customer's Telephone Number During PayPal Checkout" on page 79. The field mask is xxx-xxx-xxxx (US numbers) +xxxxxxxxxxx (international numbers)	String	20

Obtaining the Customer's Telephone Number During PayPal Checkout

You can request the buyer's phone number from within the PayPal checkout. You have three options:

- Not request the phone number (default)
- Request the phone number as an optional field
- Require that the buyer enter his or her phone number to proceed

To set these options, log in to your PayPal account, click **Profile**, and then click **Website Payment Preferences**. The section to change the default is located at the bottom of the screen.

Do Express Checkout Payment Request Parameters

Table 7.7 lists all the required and optional Do Express Checkout Payment request parameters.

TABLE 7.6 Do Express Checkout Payment request parameters

Parameter Name	Description	Required	Type	Max. Length
TOKEN	String value returned by Set Express Checkout response.	Yes	String	20
ACTION	Is D to indicate this is a Do Express Checkout Payment request.	Yes	Alpha	1
PAYERID	Unique encrypted PayPal customer account identification number. This value is returned in the URL when the customer is redirected to your website.	Yes	String	17
AMT	Total transaction amount (US Dollars) U.S. based currency. Specify the exact amount such as 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95.	Yes	Numeric	10 (with decimal)
ITEMAMT	Sum of cost of all items in this order. Limitations: Must not exceed \$10,000 USD in any currency. No currency symbol. Specify the exact amount to the cent using a decimal point—use 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95.	No	Numeric	9
FREIGHTAMT	You must set the currencyID attribute to USD. Character length and limitations: Must not exceed \$10,000 USD. No currency symbol. Specify the exact amount to the cent using a decimal point—use 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95.	No	Numeric	9
HANDLINGAMT	Total handling amount.	No	Currency	9

TABLE 7.6 Do Express Checkout Payment request parameters

Parameter Name	Description	Required	Type	Max. Length
TAXAMT	Total tax amount. Specify the exact amount to the cent using a decimal point—use 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95. Value of 0 (zero) is sent if no value is provided.	No	Currency	6
ORDERDESC	Description of items the customer is purchasing.	Yes	Alpha-numeric	127
CUSTOM	Free-form field for your own use.	Yes		256
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
BUTTONSOURCE	Identification code for use by third-party applications to identify transactions.	No	Alpha-numeric	32
NOTIFYURL	Your URL for receiving Instant Payment Notification (IPN) about this transaction. NOTE: If you do not specify NotifyURL in the request, the notification URL from your Merchant Profile is used, if one exists.	No	Alpha-numeric	2,048
SHIPTOSTREET	Shipping Address. NOTE: If you include a shipping address and provide a value for the AddressOverride (ADDROVERRIDE) parameter, PayPal returns this same address in the Get Express Checkout Details response.	Yes	String	30

TABLE 7.6 Do Express Checkout Payment request parameters

Parameter Name	Description	Required	Type	Max. Length
SHIPTOSTREET2	Extended shipping address. Example: Bldg. 6, Mail Stop 3.	No	String	30
SHIPTOCITY	Ship-to city.	Yes	String	40
SHIPTOSTATE	Ship-to state.	No	String	10
SHIPTOZIP	Ship-to postal code (called ZIP code in the USA).	No	String	16
SHIPTOCOUNTRY	Refer to Country Code tables. (See Appendix G, “ISO Country Codes”) NOTE: Currently US is the only country code supported.	Yes	String	
L_DESCn	Line item description.	Yes	String	35
L_AMTn	Total line item amount. + for debit, - for credit	No	Currency	10
L_QTYn	See Appendix D, “Submitting Purchasing Card Level 2 and Level 3 Transactions.”	No	Int	10
L_TAXAMTn	See Appendix D, “Submitting Purchasing Card Level 2 and Level 3 Transactions.”	No	Currency	6

Do Express Checkout Payment Response Parameters

[Table 7.7](#) lists all the Do Express Checkout Payment response parameters.

TABLE 7.7 Do Express Checkout Payment response parameters

Parameter Name	Description	Type	Max. Length
TOKEN	The time-stamped token value that was returned in the Set Express Checkout response.	String	20
PPREF	Unique transaction ID of the payment. If the request ACTION was A (Authorization), you should store the value of PPREF if you need to research a specific transaction with PayPal.	String	17

TABLE 7.7 Do Express Checkout Payment response parameters

Parameter Name	Description	Type	Max. Length
FEEAMT	PayPal fee amount charged for the transaction. Does not exceed \$10,000 USD. No currency symbol. Specify the exact amount to the cent using a decimal point—use 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95.	Numeric	9
TAXAMT	Total tax amount. Specify the exact amount to the cent using a decimal point—use 34.00, not 34. Do not include comma separators—use 1199.95 not 1,199.95. Value of 0 (zero) is sent if no value is provided.	Currency	6
PENDINGREASON	The reason the payment is pending. Values are: none = No pending reason address = The payment is pending because your customer did not include a confirmed shipping address and your Payment Receiving Preferences is set such that you want to manually accept or deny each of these payments. To change your preference, go to the Preferences section of your Profile. echeck = The payment is pending because it was made by an eCheck that has not yet cleared. intl = The payment is pending because you hold a non-U.S. account and do not have a withdrawal mechanism. You must manually accept or deny this payment from your Account Overview. multi-currency = You do not have a balance in the currency sent, and you do not have your Payment Receiving Preferences set to automatically convert and accept this payment. You must manually accept or deny this payment. verify = The payment is pending because you are not yet verified. You must verify your account before you can accept this payment. completed = The payment has been completed, and the funds have been added successfully to your account balance. other = The payment is pending for a reason other than those listed above. For more information, contact PayPal customer service.	String	

Pending Payments. If the Do Express Checkout Payment PENDINGREASON response is a value other than none or completed, the payment is pending. Typically, the customer has paid

with an eCheck. In such a case, funds are not guaranteed, and you should not ship or deliver items or services until the payment has successfully completed. To find out the status of a pending payment, either submit an Inquiry transaction (described in [“Submitting Inquiry Transactions” on page 38](#)) or sign up for PayPal’s instant payment notification service (IPN). You can also check the status using PayPal Manager. See PayPal Manager online help for details.

Void Transaction Parameters

In addition to the Void transaction parameters described in Chapter 3, the following parameters can be used in Void transactions.

TABLE 7.8 Void transaction request parameters

Parameter Name	Description	Required	Type	Max. Length
NOTE	An informal note about this settlement that is displayed to the customer in email and in the customer’s transaction history.	No	String	255

Delayed Capture Transaction Parameters

In addition to the Delayed Capture transaction parameters described in Chapter 3, the following parameters can be used in Delayed Capture transactions.

TABLE 7.9 Delayed Capture transaction request parameters

Parameter Name	Description	Required	Type	Max. Length
NOTE	An informal note about this settlement that is displayed to the customer in email and in the customer’s transaction history.	No	String	255

In addition to the response parameters described in [Chapter 4, “Responses to Credit Card Transaction Requests,”](#) the following parameter can be returned in the Delayed Capture response.

TABLE 7.10 Delayed Capture transaction response parameters

Parameter Name	Description	Required	Type	Max. Length
PAYMENTTYPE	Returns instant if the payment is instant or echeck if the payment is delayed.	No	String	7

Credit Transaction Parameters

In addition to the Credit transaction parameters described in [Chapter 3, “Performing Credit Card Transactions,”](#) the following parameters can be used in Credit transactions.

NOTE: Express Checkout only supports reference transactions for Credits.

TABLE 7.11 Credit transaction request parameters

Parameter Name	Description	Required	Type	Max. Length
MEMO	Custom memo about the credit.	No	Alpha-numeric	255

Testing Express Checkout

For details on testing Express Checkout, see *Payflow Pro Express Checkout and Direct Payment Simulator Guide* at the following URL:

https://www.paypal.com/en_US/pdf/PayflowPro_Simulator_Guide.pdf



8

PayPal Button Placement and Page Designs

IMPORTANT: When you offer PayPal Express Checkout to your customers, you are required to display it in two forms, for your customers' best buying experience:

1. PayPal as a Checkout Choice on your shopping cart page
2. PayPal as a Payment Method

TABLE 8.12 PayPal Button Placement and Rules

Placement	PayPal Button Graphic	Requirements
1. PayPal as a Checkout Choice		Place the PayPal Checkout button on your cart page, aligned with any other checkout buttons.
2. PayPal as a Payment Method		Place the PayPal Acceptance Mark graphic <ol style="list-style-type: none"> 1. On your Payment Billing page. 2. On your home page, along with credit card logos, if applicable.

HTML for PayPal Button Graphics

You can get HTML for the Express Checkout button and PayPal Acceptance Mark from the following location:

<https://www.paypal.com/express-checkout-buttons>

IMPORTANT: Rather than storing the button graphics on your own server, use the PayPal-provided image paths for the graphics to reassure your customers that the checkout is secure and that you are displaying the most up-to-date logos from PayPal.

Examples of Button Placement

Here are some examples of proper placement:

1. PayPal as a Checkout Choice and as a Payment Method

The screenshot shows the DesignerFotos Shopping Cart page. The header includes the DesignerFotos logo, a search bar, and links for View Cart, My Account, and Help. A sidebar on the left lists categories: Landscape, Abstract, Still Life, and a subscription option for FOTO Magazine. The main content area is titled 'Shopping Cart' and contains a table with two items: 'San Francisco Bay (32" x 32")' for \$250.00 and 'Mount Hamilton (24" x 15")' for \$50.00. Below the table is an 'Update' button and a subtotal of \$300.00. A note states: 'For testing purposes only \$0.01 will be submitted.' At the bottom, there are 'Continue Shopping' and 'Proceed to Checkout' buttons. A 'Checkout with PayPal' button is prominently displayed, along with a note that DesignerFotos accepts various credit cards.

2. PayPal as a Payment Method

The screenshot shows the DesignerFotos Billing Information page. The header includes the DesignerFotos logo. The main content area is titled 'Billing Information' and contains a message: 'Please select a payment method, enter your billing address, then click the 'Continue' button.' Below this, there is a 'Payment Method' section with two radio buttons. The first radio button is selected and labeled 'PayPal', with the text 'Save time. Checkout securely. Pay without sharing your financial information.' The second radio button is labeled 'Credit Card' and has a dropdown menu for selecting a card type. Below the 'Payment Method' section is a 'Credit or Debit Card Information' section with a dropdown menu for selecting a card type.

You can choose from several design variations for PayPal as a Payment Method. See [“Payment Method Page Layout Recommendations.”](#)

Payment Method Page Layout Recommendations

When you display the PayPal Acceptance Mark with other payment methods, you have several designs to choose from:

- As a radio button
- As horizontal fields
- In a pulldown SELECT list

IMPORTANT: *Do not preselect any payment method. Allow the customer to make a choice without any default.*

As a radio button:

FIGURE 8.2 *Payment Methods: PayPal as Unique Choice*

The screenshot shows a payment page for 'DesignerFotos'. Under the 'Billing Information' section, there is a text prompt: 'Please select a payment method, enter your billing address, then click the 'Continue' button.' Below this, the 'Payment Method' section features a radio button next to the PayPal logo and the text 'Save time. Checkout securely. Pay without sharing your financial information.' Below the PayPal option, there are four more radio buttons corresponding to the logos for MasterCard, VISA, AMEX, and DISCOVER. Below the payment method section, there is a 'Credit or Debit Card Information' section with a 'Credit Card Type' label and a dropdown menu currently showing 'Select a Card'.

As horizontal option fields:

FIGURE 8.3 *Payment Methods: Horizontal Design*

The screenshot shows a horizontal payment method selection interface. It starts with the text 'Payment Method:' followed by a series of radio buttons. The first radio button is next to the PayPal logo. The second radio button is next to the VISA logo. The third radio button is next to the MasterCard logo. The fourth radio button is next to the AMEX logo. The DISCOVER logo is also present but not visible next to a radio button in this specific view.

As a pulldown SELECT list:

FIGURE 8.4 Payment Methods: Pulldown SELECT List

Payment Method:

- PayPal
- Visa
- Master Card
- American Express

A

Processors Requiring Additional Transaction Parameters

This appendix lists both required and optional parameters supplementary to the common parameter set.

In this Appendix

- [“American Express” on page 91](#)
- [“First Data Merchant Services \(FDMS\) Nashville” on page 94](#)
- [“First Data Merchant Services \(FDMS\) South” on page 95](#)
- [“First Data Merchant Services \(FDMS\) North” on page 95](#)
- [“Nova” on page 96](#)
- [“Paymentech” on page 97](#)
- [“Vital” on page 98](#)

American Express

American Express Additional Credit Card Parameters

In addition to the [“Parameters Used in Credit Card Transactions” on page 26](#), American Express Phoenix and American Express Brighton accepts the following parameters:

TABLE A.1 *American Express additional parameters*

Parameter	Description	Required	Type	Length
DESC	Describes the transaction.	No	Alpha-numeric	Brighton 40 Other American Express platforms 23
DESC1	Describes the transaction.	No	Alpha-numeric	40
DESC2	Describes the transaction.	No	Alpha-numeric	40
DESC3	Describes the transaction.	No	Alpha-numeric	40

TABLE A.1 *American Express additional parameters (Continued)*

Parameter	Description	Required	Type	Length
DESC4	Describes the transaction.	No	Alpha-numeric	40
FIRSTNAME	Account holder's first and last name. Note: Even though the parameter name indicates only the first name, this single parameter holds all of the person's name information (both first and last name, at a minimum).	No	Alpha-numeric	13
LASTNAME	Account holder's last name.	No	Alpha-numeric	13
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
ORDERDATE	Specifies an order date. For example, July 28, 2003 is 072803. Format: mmddyy (with no slashes or dashes)	No		7
ORDERDATETIME	Specifies an order time and date. Format is either YYYY-MM-DD or YYYY-MM-DD HH:MI:SS (where HH is in 24-hour time). If the value does not conform to one of the formats or if the date is not valid (for example, 2004-17-35), then the transaction is rejected with: RESULT=7(SIG_FIELD_ERR) RESPMSG=Invalid ORDERTIME A truncated version of the ORDERTIME value (up to 7 characters) overwrites any value provided by ORDERDATE. If no value is provided, a NULL value is stored	No		19

TABLE A.1 American Express additional parameters (Continued)

Parameter	Description	Required	Type	Length
RECURRING	<p>Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs.</p> <p>If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.</p> <p>If you subscribe to PayPal's Fraud Protection Services:</p> <p>To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.</p> <p>To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.</p>	No	Alpha-numeric Y or N	1
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80
BALANCE	Returns the balance on a stored value card if the balance is less than the amount submitted in a Sale or Authorization transaction.			

Stored Value Cards

American Express supports a stored value card tender type representing a set amount of funds. This card is typically offered as a "gift" card and allows the user to spend any amount up to the balance remaining on the card. If the card is used to purchase merchandise exceeding the card balance, American Express declines the transaction and returns the card balance in the BALANCE parameter.

The following is an example transaction request that causes BALANCE to be returned:

```
"TRXTYPE=A&TENDER=C&PWD=x1y2z3&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&ACCT=5555555555554444&EXPDATE=0308 &AMT=123.00&STREET=5199 MAPLE&ZIP=94588"
```

The example response shows the BALANCE as less than the amount requested in the Authorization.

```
RESULT=&PNREF=VXYZ01234567&BALANCE=99.00&AVSADDR=Y&AVSZIP=N
```

First Data Merchant Services (FDMS) Nashville

FDMS Nashville, Additional Credit Card Parameters

In addition to the “[Parameters Used in Credit Card Transactions](#)” on page 26, FDMS Nashville accepts the following parameters:

TABLE A.2 *FDMS Nashville additional parameters*

Parameter	Description	Required	Type	Length
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
RECURRING	Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs. If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions. If you subscribe to PayPal's Fraud Protection Services: To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions. To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80

First Data Merchant Services (FDMS) South

FDMS South, Additional Credit Card Parameters

In addition to the “Parameters Used in Credit Card Transactions” on page 26, FDMS South accepts the following parameters:

TABLE A.3 FDMS South additional parameters

Parameter	Description	Required	Type	Length
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80

First Data Merchant Services (FDMS) North

FDMS North, Additional Credit Card Parameters

In addition to the “Parameters Used in Credit Card Transactions” on page 26, FDMS North (also known as FDMS CardNet) accepts the following parameters:

TABLE A.4 FDMS North additional parameters

Parameter	Description	Required	Type	Length
DESC	Use the DESC* parameters to pass in your DBA name and other data describing the transaction. This information will be displayed in the end user’s statement. Note: FDMS North passes the descriptive data to the card associations with the following character lengths: <ul style="list-style-type: none"> • Visa: 25 • MasterCard: 22 • AMEX: 20 • DISC: 22 Some card associations truncate the value to 19 characters. If you have questions, consult the card association.	No	Alpha-numeric	25
MERCHSVC	Defaults to CITY (where the merchant outlet is located) for retail and to PHONENUM for non-retail. For example, 800 111-1111. Use uppercase characters. The first three positions must be numeric.	No	Alpha-numeric	13

FDMS North supports partial Authorization reversals for Visa only when the capture amount is less than the authorization amount; full Authorization reversals are not supported. FDMS North does not support unreferenced credits.

Nova

Nova, Additional Credit Card Parameters

In addition to the [“Parameters Used in Credit Card Transactions”](#) on page 26, Nova accepts the following parameter:

TABLE A.5 *Nova additional parameters*

Parameter	Description	Required	Type	Length
RECURRING	<p>Identifies the transaction as recurring. This value does not activate PayPal’s Recurring Billing Service APIs.</p> <p>If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions.</p> <p>If you subscribe to PayPal’s Fraud Protection Services:</p> <p>To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions.</p> <p>To screen a prospective recurring customer, submit the transaction data using PayPal Manager’s Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.</p>	No	Alpha-numeric Y or N	1

Paymentech

Paymentech, Additional Credit Card Parameters

In addition to the “Parameters Used in Credit Card Transactions” on page 26, Paymentech accepts the following parameters. For best AVS results, pass the city and state parameters in the parameter list.

TABLE A.6 Additional Paymentech parameters

Parameter	Description	Required	Type	Length
CITY	Cardholder's billing city.	No	Alpha	20
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
MERCHDESCR	Merchant descriptor. For example, ABCCMPY*FALLCATALOG	No	Alpha-numeric	22
MERCHSVC	Merchant telephone number. For example, 603-555-1212	No	Alpha-numeric	13
STATE	Cardholder's billing state.	No	Alpha	2
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80
RECURRING	Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs. If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions. If you subscribe to PayPal's Fraud Protection Services: To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions. To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1

TABLE A.6 *Additional Paymentech parameters (Continued)*

Parameter	Description	Required	Type	Length
RECURRINGTYPE	(Paymentech Tampa only) Type of transaction occurrence. The values are: F = First occurrence S = Subsequent occurrence (default)	No	Alpha	1

Vital

Vital, Additional Credit Card Parameters

In addition to the “[Parameters Used in Credit Card Transactions](#)” on page 26, Vital accepts the following parameters (Table continues on next page):.

TABLE A.7 *Vital additional parameters*

Parameter	Description	Required	Type	Length
INVNUM	Merchant invoice number. The merchant invoice number is used for authorizations and settlements and, depending on your merchant bank, will appear on your customer's credit card statement and your bank reconciliation report. If you do not provide an invoice number, the transaction ID (PNREF) will be submitted.	No	Alpha-numeric	9
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80
RECURRING	Identifies the transaction as recurring. This value does not activate PayPal's Recurring Billing Service APIs. If the RECURRING parameter was set to Y for the original transaction, then the setting is ignored when forming Credit, Void, and Force transactions. If you subscribe to PayPal's Fraud Protection Services: To avoid charging you to filter recurring transactions that you know are reliable, the fraud filters do not screen recurring transactions. To screen a prospective recurring customer, submit the transaction data using PayPal Manager's Manual Transactions page. The filters screen the transaction in the normal manner. If the transaction triggers a filter, then you can follow the normal process to review the filter results.	No	Alpha-numeric Y or N	1

B

Performing TeleCheck Electronic Check Transactions

This chapter describes the process of performing electronic check transactions. Responses to transaction requests are described in [Appendix C, “Responses to TeleCheck Transaction Requests.”](#)

PayPal offers electronic check acceptance through TeleCheck. Before processing electronic check transactions, merchants must obtain an account through TeleCheck (www.telecheck.com).

NOTE: For information on credit card transactions, skip this chapter and see [Chapter 3, “Performing Credit Card Transactions.”](#)

For information on performing ACH transactions, contact your PayPal Sales Representative at paymentsales@PayPal.com.

TeleCheck Contact Information

Mail: TeleCheck Merchant Services
PO Box 4513
Houston, TX 77210-4513

Phone: 1-800-366-1054 (Merchant Services)

TeleCheck Transaction Syntax

NOTE: The examples in this chapter use the syntax of the pfpro executable client. Other Payflow clients differ in where and how the parameter values are set, but the meaning and uses are the same.

Use the following syntax when calling the Payflow client (pfpro) to process a TeleCheck transaction. [Table B.1](#) describes the arguments to the pfpro executable client command

```
pfpro <HostAddress> <HostPort> "<ParmList>" <TimeOut> <ProxyAddress>  
<ProxyPort> <ProxyLogon> <ProxyPassword>
```

For example:

```
pfpro test-payflow.verisign.com 443 "TRXTYPE=S&TENDER=K
&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&PWD=x1y2z3&AMT=123.
00&MICR=1234567804390850014321&CHKNUM=4321
&NAME=Lydia Chin&STREET=121 Park Street&CITY=Pleasanton&STATE=MA
&ZIP=123451234&DL=MA1234567&EMAIL=cchu@customer.com" 30
```

TABLE B.1 Arguments to the pfpro executable client

Argument	Required	Description
HOSTADDRESS	Yes	PayPal's host name. For live transactions, use payflow.verisign.com For testing purposes use test-payflow.verisign.com
HOSTPORT	Yes	PayPal host port number: Use port 443.
PARMLIST	Yes	The ParmList is the list of parameters that specify the payment information for the transaction. The quotation marks “ ” at the beginning and end are required. In the example, the ParmList is: “TRXTYPE=S&TENDER=K&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&PWD=x1y2z3&AMT=123.00&MICR=1234567804390850014321&CHKNUM=4321&NAME=Lydia Chin&STREET=121 Park Street&CITY=Pleasanton&STATE=MA&ZIP=123451234&DL=MA1234567&EMAIL=cchu@customer.com” All parameters used in TeleCheck transactions are described in Table B.2 on page 102 .
TIMEOUT	Yes	Time-out period for the transaction. The minimum recommended time-out value is 30 seconds. The PayPal client begins tracking from the time that it sends the transaction request to the PayPal server.
PROXYADDRESS	No	Proxy server address. Use the PROXY parameters for servers behind a firewall. Your network administrator can provide the values.
PROXYPORT	No	Proxy server port
PROXYLOGON	No	Proxy server logon ID
PROXYPASSWORD	No	Proxy server logon password

Command Syntax Guidelines

Follow these guidelines:

- The command must be a single string with no line breaks.
- Use spaces as argument separators.
- Enclose the ParmList in quotation marks (“”).
- Quotation marks (“”) are absolutely not allowed in the body of the ParmList.
- Separate all name/value pairs in the ParmList using an ampersand (&).

- Payflow supports UTF-8 format for values passed in name=value pairs.
- Calling pfpro without the required parameters results in an error message.

Using Special Characters in Values

Because the ampersand (&) and equal sign (=) characters have special meanings in the ParmList, name/value pairs like NAME=Ruff & Johnson, and COMMENT1=Level=5 are not valid.

To use the & and = characters in the value of a name/value pair, use a *length tag*. A length tag specifies the exact number of characters and spaces that appear in the value. The following name/value pairs are valid:

```
NAME[14]=Ruff & Johnson
COMMENT1[7]=Level=5
```

NOTE: Quotation marks (") are absolutely not allowed in the body of the ParmList, even if you use length tags.

TeleCheck Parameters

Parameters used for processing electronic checks through TeleCheck are described in [Table B.2](#). Required and optional parameters are noted.

NOTE: [Appendix F, “Additional Reporting Parameters,”](#) provides a list of parameters that you can pass for reporting purposes.

Required Parameters

As a summary of [Table B.2](#), the following parameters are required for every electronic check transaction:

```
TRXTYPE
TENDER
CHKTYPE
PARTNER
VENDOR
USER
PWD
AMT
CITY
DL or SS
CHKNUM
EMAIL
MICR
NAME
STATE
```

STREET
ZIP

TABLE B.2 TeleCheck Parameters

Parameter	Description	Required	Type	Length
AMT	This is the transaction amount in U.S. dollars. The transaction amount should always specify a decimal, and the exact amount to the cent (for example, 34.00, instead of 34). Do not include comma separators in the amount. Use 1199.95 not 1,199.95.	Yes	Numeric US Dollars only.	7
CITY	Account holder's city	Yes	Alpha	20
COMMENT1	User-defined value for reporting and auditing purposes.	No	Alpha- numeric	128
COMMENT2	User-defined value for reporting and auditing purposes.	No	Alpha- numeric	128
CHKNUM	Account holder's next unused (available) check number	Yes	Numeric	7
CHKTYPE	Check type: P: personal (default) or C: company If CHKTYPE=P, then a value for either DL or SS must be passed as an identifier. If CHKTYPE=C, then the Federal Tax ID must be passed as the SS value.	Yes	Alpha	
DL	Driver's license number. If CHKTYPE=P, a value for either DL or SS must be passed as an identifier. Format: XXnnnnnnnn XX = State Code nnnnnnnn = DL Number	Yes	Alpha- numeric	33
DOB	Account holder's date of birth. Format: mmddyyyy. For example, July 28, 1965 is represented as 07281965.	No	Alpha- numeric	8
EMAIL	Account holder's e-mail address	Yes	Alpha- numeric	40
INVNUM	Check invoice number	No	Alpha- numeric	9
MICR	Magnetic Ink Check Reader. This is the entire line of numbers at the bottom of all checks. It includes the transit number, account number, and check number.	Yes	Alpha- numeric	35
NAME	Account holder's name as it appears on the check	Yes	Alpha- numeric	30

TABLE B.2 TeleCheck Parameters (Continued)

Parameter	Description	Required	Type	Length
PARTNER	The authorized PayPal Reseller that registered you for the Payflow service provided you with a Partner ID . If you registered yourself, use PayPal . This parameter is case-sensitive.	Yes	Alpha-numeric	12
PHONENUM	Account holder's telephone number	No	Numeric	20
PWD	Case-sensitive 6- to 32-character password that you created while registering for the account.	Yes	Alpha-numeric	32
SS	Account holder's social security number. If CHKTYPE=P, a value for either DL or SS must be passed as an identifier. If CHKTYPE=C, the Federal Tax ID must be passed as the SS value.	No	Alpha-numeric	35
STATE	Account holder's state	Yes	Alpha	2
STREET	Account holder's street address	Yes	Alpha-numeric	30
TENDER	Tender type (method of payment). Use only the value K (electronic check).	Yes	Alpha	1
TRXTYPE	Type of transaction that should be processed. Allowed transaction types: Sale (S), Void (V), Inquiry (I).	Yes	Alpha	1
USER	Case-sensitive login ID for the Payflow Pro account that you created while registering for the account. In the future, each account will allow multiple users. This parameter will specify the user.	Yes	Alpha-numeric	12
VENDOR	Case-sensitive Vendor ID that you created while registering for the account.	Yes	Alpha-numeric	12
ZIP	Account holder's 5- to 9-digit postal code (called ZIP code in the USA). Do not use spaces, dashes, or non-numeric characters.	Yes	Alpha	9

Testing TeleCheck Transactions

PayPal provides a test server to support testing and configuration.

Test Transaction Server

Submit test transactions to test-payflow.verisign.com, using port 443.

Example Test Transaction

```
"TRXTYPE=S&TENDER=K&CHKTYPE=P&PARTNER=<your Partner Name (typically
PayPal)&VENDOR=<your Merchant Login Name>&USER=<your Merchant Login
Name>&PWD=<your Payflow password>&
AMT=42.00&STREET=1234 Main&CITY=Buffalo&DL=CA123456&CHKNUM=1001&EMAIL=<y
our e-mail address>&MICR=<Use a MICR value
from Table B.3>&NAME=Sally&STATE=CA&ZIP=95050"
```

TABLE B.3 MICR values for testing

MICR	HOSTCODE	TeleCheck Result
1234567804390850001001	000800	Check Approved ECA
1234567804390850011001	000801	Check Approved No ECA
1234567804390850021001	000802	Check Approved ECA, No Guarantee
1234567804390850031001	000803	Check Approved No ECA, No Guarantee
1234567804390850041001	000804	Check Decline Negative Data
1234567804390850051001	000805	Check Decline Scoring
1234567804390850071001	000807	Check Failed

Preparing for TeleCheck Production Transactions

Before going into production with your check integration, you must certify your storefront with TeleCheck. To begin the certification process, send an e-mail to ica_certification@telecheck.com. Be sure to include the following information:

- Your test website address where test transactions can be processed
- The name, e-mail address, and phone number of the person to contact about any needed corrections.

The certification process usually takes 2-3 days.

Use the HostAddress value of `payflow.verisign.com` and HostPort of 443

Logging Transaction Information

PayPal maintains a record of all transactions executed on your account.

NOTE: This record is not the official bank statement. The transaction summary that you receive from TeleCheck is the official record.

Use PayPal Manager at <https://manager.paypal.com> to view this record and use the information to help reconcile your accounting records.

In addition, PayPal strongly recommends that you log all transaction results (except for check information) on your own system. At a minimum, log the following data:

PNREF

Transaction Date



Responses to TeleCheck Transaction Requests

This chapter describes the contents of a response to a TeleCheck transaction request.

When a transaction finishes, PayPal returns a response string made up of name/value pairs. For example:

```
RESULT=0&PNREF=VXYZ01234567&HOSTCODE=000500&RESPMSG=Approved
```

Transaction response values are described in [Table C.1](#).

TABLE C.1 Transaction responses common to all tender types

Field	Description	Type	Length
RESULT	The outcome of the attempted transaction. A result of 0 (zero) indicates the transaction was approved. Any other number indicates a decline or error. RESULT codes are described in “RESULT Codes and RESPMSG Values” on page 51 .	Numeric	Variable
PNREF	PayPal Reference ID, a unique number that identifies the transaction. PNREF is described in “HOSTCODE Values” on page 107 .	Alpha-numeric	12
HOSTCODE	TeleCheck’s response code representing the results of the transaction authorization attempt. These values are described in “HOSTCODE Values” on page 107 .	Numeric	6
RESPMSG	A descriptive message associated with decline or error RESULTS. Response messages are described in “RESULT Codes and RESPMSG Values” on page 51 .	Alpha-numeric	Variable

HOSTCODE Values

The HOSTCODE reflects the TeleCheck server result. The following tables describe the HOSTCODE values. TeleCheck requires that you display certain verbiage to the purchaser based on the returned HOSTCODE value—check with TeleCheck for details.

NOTE: Many of these codes will not be encountered under normal operating conditions—they are included as a troubleshooting aid. In the tables, the Frequency column indicates the likelihood that you will encounter the code.

TABLE C.2 Sale Approved HOSTCODE values

Code	Response	Description	Frequency
000500	Sale Approved	Sale Approved by credit card network	Common
000501	Sale Time-out	Sale transaction time-out in credit card network	Common

TABLE C.2 Sale Approved HOSTCODE values (Continued)

Code	Response	Description	Frequency
000502	Test Card	Test card sale approved (never billed)	Common
000504	ANI Sale Approved	900/Telco sale approved	ANI bill only
000505	PB Sale Approved	Private billing sale approved	PB only
000800	Sale Approved	Direct Check Sale/ECA approved	Direct Check
000801	Sale Approved	Direct Check Sale approved (no ECA)	Direct Check
000802	Sale Approved	Direct Check Sale/ECA approved no guarantee	Direct Check
000803	Sale Approved	Direct Check Sale approved no ECA no guarantee	Direct Check

TABLE C.3 Sale Declined HOSTCODE values

Code	Response	Description	Frequency
000300	Sale Declined	Sale declined by credit card network	Common
000301	Sale Rejected	Sale does not meet risk standards	Common
000804	Check Declined	Direct Check Sale declined negative data	Direct Check
000805	Check Declined	Direct Check Sale Decline Scoring	Direct Check
000807	Check Failure	Direct Check Sale	Direct Check

TABLE C.4 Inquiry Approved HOSTCODE values

Code	Response	Description	Frequency
000400	OTB Approved	Preauth approved. AVS matches if provided.	Common
000401	No Response	No response from credit card network for preauth.	Common
000402	AVS Time-out	Preauth approved, AVS timed out	AVS only
000403	PB Approved	Private billing approved.	PB only
000410	Positive Record	Previous positive history.	Common
000420	Test card Approved	Test Card	Common
000421	OTB/AVS Approval	Preauth Approved, AVS match	AVS only
000503	ANI Bill approved	900/TELCO billing approved	ANI bill only

TABLE C.5 General Failure HOSTCODE values

Code	Response	Description	Frequency
000100	General Failure	General host based failure	Rare

TABLE C.5 General Failure HOSTCODE values

Code	Response	Description	Frequency
000101	Invalid Value	Invalid for one or more fields in transaction	Common
999999	Unknown Response	TeleCheck received an unknown response	Rare

TABLE C.6 Inquiry Declined HOSTCODE values

Code	Response	Description	Frequency
000200	Preauth Declined	Declined by credit card or Telco network (LIDB)	Common
000201	PIN Mismatch	Mismatch on PIN stored in TeleCheck database	Not Used
000210	Negative Card Record	Temporary and permanent blocks. Prior OTB decline, sale decline or CS block Transaction falls below minimum scoring standards. Most frequently used for risk scoring declines, where a transaction falls below minimum standards.	Common
000215	Negative ANI Record	ANI previously blocked by CS	Common
000220	Chargeback Card	Card with chargeback history	Common
000225	Chargeback ANI	ANI with chargeback history	Common
000230	Exceed card profile ¹	Card has exceeded usage limits	Uncommon
000240	Too many Cards ¹	ANI has excessive number of cards	Uncommon
000250	Exceed ANI profile ¹	ANI has exceeded usage limits	Uncommon
000260	Too Many Phones ¹	Card has been used from excessive ANI	Uncommon
000270	OTB/AVS Decline	OTB decline and AVS mismatch	AVS OTB only
000271	OTB/AVS Decline	OTB approved and AVS mismatch	AVS OTB only
000272	OTB/AVS Decline	OTB decline and AVS match	AVS OTB only
000280	Risk Referral	Temporary Risk referral, AVS necessary	Common
000281	Card Not Qualified	Card does not meet minimum bank restrictions	Not Used
000282	PB Risk Referral	Private billing risk referral, AVS necessary	PB Only

1. This data is included in risk scoring decisions and a response of 210 has higher precedence.



Submitting Purchasing Card Level 2 and Level 3 Transactions

PayPal Payment Services supports passing Purchasing Card Level 2 information (such as purchase order number, tax amount, and charge description) in the settlement file.

If additional required invoice information and line items details are included in the transaction, PayPal formats Purchasing Card Level 3 information in an appropriate format, for example, EDI (Electronic Data Interchange) 810 format as required by American Express during settlement processing.

About Purchasing Cards

Purchasing Cards are used in the procurement process to eliminate paper-based order systems and associated costs, to improve control and accountability through itemized statements, to foster better risk controls through spending limits and buying from approved vendors, to reduce administrative overhead because employees are empowered to make small purchases, and to enable enterprises to negotiate better contract pricing and discounts with suppliers through the use of vendor detail reports.

To promote acceptance and usage of Purchasing Card programs, card issuers have established incentive rates for merchants. These rates are available for merchants who comply at either Level 2 or Level 3 (described in the next section). Transactions that comply at Level 1 qualify as a normal credit card transactions.

NOTE: Card issuing institutions perform strict data verification on the enhanced data that is submitted with Level 2 or Level 3 transactions. Issuers may charge stiff penalties if fields contain either inaccurate or filler data. Only transactions that contain accurate data are eligible for the incentive rates.

About Program Levels

The term Level does not apply to the card, but to the transaction data submitted for that card. Generally, a higher level means more detailed data for reporting.

[Table D.1](#) describes the transaction levels that are recognized.

TABLE D.1 Transaction levels

Level	Description
Level 1	Function as normal credit cards and are authorized and associated with normal transaction data in authorization and settlement. Any merchant who accepts credit cards supports this level

TABLE D.1 Transaction levels

Level	Description
Level 2	Additional data regarding sales tax, customer code, purchase order number, invoice number are captured at the point of sale. In most cases, this information is combined with the merchant's Tax ID number, state, and postal code data and is then passed through during settlement. For some processors and banks, however, a Level 2 authorization may include some of this data.
Level 3	Significant additional information such as line items, product codes, item descriptions, unit price, unit quantities, and ship-to postal data are added to the Level 2 data to provide optimal reporting to buyers and sellers. Settlement transactions typically carry Level 3 data.

Level 2 and Level 3 data is generally considered non-financial data. Lack of adequate data may cause a transaction to be downgraded.

PayPal generally requires up to Level 2 information in an Authorization transaction followed by additional Level 3 data in the associated Delayed Capture transaction. A Sale transaction should include all Level 3 data since it is authorized and later settled.

Accepted BIN Ranges

Visa, MasterCard, and American Express publish specific BIN ranges for Purchasing cards. Sometimes the determination of whether a card is a Purchasing card is left to the processor (for example, Vital). In other cases, the Payflow payments gateway makes the determination based on the BIN range (for example, FDMS South and AMEX).

Performing American Express Purchasing Card Transactions Through the American Express Phoenix Processor

The information in this section applies to transactions processed by the American Express Phoenix Processor, not necessarily to all American Express cards. Level 2 and Level 3 purchasing card rules may differ for American Express card transactions processed by other processors such as Paymentech or First Data Nashville.

Supported Transaction Types

You can submit Level 3 parameters with Delayed Capture, Sale, Credit, or Force transactions. Level 3 data in Auth transactions is ignored. The Payflow payments gateway decides whether a transaction meets Level 3 requirements during authorization.

Level 3 data is passed to the AMEX Phoenix processor only during settlement.

Avoiding Downgrade

If a transaction uses the Purchasing card BIN range and contains a line item, but does not include all mandatory Level 3 parameters, then the transaction succeeds, but is processed as Level 2 or Level 1 during settlement (depending on which data was passed).

For downgraded transactions, with the VERBOSITY parameter set to MEDIUM or HIGH, a message like the following is returned in the ADDLMSGs field:

Features not processed: PCARD L3 (missing or invalid: InvoiceNumber
RequestorName)

— or —

Features not processed: PCARD L3 (line-item 3 missing: Description)

Submitting Successful Level 3 Transactions

If a transaction uses the Purchasing card BIN range, contains all mandatory Level 3 fields, and has at least one line item (with all mandatory line item fields), the Payflow payments gateway flags it as Level 3.

Edit Check

PayPal performs an edit check on the transaction's amount fields to ensure that all line item and tax amounts balance.

If the edit check fails, the transaction fails with **Result 4: Invalid Amount**.

To pass the edit check, the following relationship must be true:

Transaction Amount = Total Tax Amount + Total Freight Amount + Total Handling Amount + Total Line-Item Amount.

Transaction Amount	Total amount for the transaction, AMT
Total Tax Amount	TAXAMT
Total Freight Amount	FREIGHTAMT, or, if not present, the summation of L_FREIGHTAMT for all line items
Total Handling Amount	HANDLINGAMT, or, if not present, the summation of L_HANDLINGAMT for all line items
Total Line-Item Amount	Summation of L_QTYn * L_COSTn for all line items (n as the line item number). For example, if there are 2 line items, then the Total Line-item Amount would be (LQTY1*LCOST1) + (LQTY2*LCOST2)

Submitting Purchasing Card Level 2 and Level 3 Transactions

Performing American Express Purchasing Card Transactions Through the American Express Phoenix

Accepted BIN Ranges

The following Bank Identification Numbers (BINs) are accepted for American Express Level 2 and Level 3 transactions:

37857

37859

37873

American Express Phoenix Level 2 Transaction Data

The American Express Phoenix platform supports Level 2 transaction data. The Level 2 parameters supported are described in [Table D.2](#).

TABLE D.2 American Express Level 2 transaction data

Pay Flow SDK parameter	Mandatory / Optional	Format (min/max, type)
PONUM	M	1/17, AN
SHIPTOZIP	M	1/16, AN
DESC1	O	1/40, AN
DESC2	O	1/40, AN
DESC3	O	1/40, AN
DESC4 (Typically used to pass freight amount as FRT<amount> (example, FRT10.0)).	M	1/40, AN

Example American Express Phoenix Level 2 Transaction Parameter String

```
"TRXTYPE=S&ACCT=372449635311003&AMT=20.06&CITY=Mountain
View&DESC1=desc1&DESC2=desc2&DESC3=desc3&DESC4=FRT10.00&EXPDATE=1209&NAME=Cardholder
Name&PARTNER=PayPal&PONUM=12345&PWD=pwd&SHIPTOZIP=94045&STATE=CA&STREET=123 Main
St.&TENDER=C&USER=user&ZIP=123451234"
```

American Express Phoenix Level 3 Transaction Data

The American Express Phoenix platform supports Level 3 transaction data. PayPal provides the Merchant Registration data values: Supplier Name, Supplier City, Supplier State, Supplier

Postal code, Merchant No, and Federal Tax ID. The merchant provides the values listed in [Table D.3](#).

TABLE D.3 American Express Phoenix Level 3 Parameters

AMEX Name (per American Express Specification)	Mandatory / Optional	Pay Flow SDK parameter	XMLPayRequest parameter (See <i>Payflow Pro XMLPay Developer's Guide</i> for detailed instructions.)	Format (min/max, type)
Supplier Reference Number	O	INVNUM Defaults to PNREF if not present.	Invoice.InvNum	1/9, AN
Authorization Code	M	AUTHCODE (Passed transparently for delayed capture. Use only with voice authorized force capture transactions)	ForceCapture.Authcode	
Requester Name	M	REQNAME	ExtData "REQNAME"	1/40, AN
Cardmember Reference No	M	PONUM	BillTo.PONum	1/17, AN
Ship to ZIP	M	SHIPTOZIP	ShipTo.Address.ZIP	5/6, AN
Invoice Date	O	INVOICEDATE Defaults to Transaction Date if not present.	Invoice.Date	YYYYMM DD, string
Total Transaction Amount	M	AMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). NOTE: American Express Phoenix Level 3 processing requires that this parameter have a maximum field length of 8 for Level 3 processing.	Invoice.TotalAmt	1/8 NUM
Total Tax Amount	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	Invoice.TaxAmt	1/6 NUM
Charge Description	O	DESC Defaults to "NO"	Invoice.Description	1/40, AN

Submitting Purchasing Card Level 2 and Level 3 Transactions

Performing American Express Purchasing Card Transactions Through the American Express Phoenix

TABLE D.3 American Express Phoenix Level 3 Parameters (Continued)

AMEX Name (per American Express Specification)	Mandatory / Optional	Pay Flow SDK parameter	XMLPayRequest parameter (See <i>Payflow Pro XMLPay Developer's Guide</i> for detailed instructions.)	Format (min/max, type)
Total Freight Amt	O	FREIGHTAMT	Invoice.FreightAmt	1/15, AN
Total Handling Amt	O	HANDLINGAMT	Invoice.HandlingAmt	1/15, AN
Quantity Invoiced	M	L_QTYn	Item.Quantity	1/10, NUM
Unit of Measure	M	L_UOMn	Item.UnitOfMeasurement	2/2, AN
Unit Price	M	L_COSTn	Item.UnitPrice	1/15, NUM
Item Description	M	L_DESCn	Item.Description	1/80, AN
Supplier Catalog No	M	L_CATALOGNUMn	Item.CatalogNumber	1/20, AN
Cost Center No	M	L_COSTCENTERNUMn	Item.CostCenterNumber	1/30, AN
Supplier Stock Keeping Unit Number	O	L_PRODCODEn	Item.SKU	1/30, AN
Universal Product Code	O	L_UPCn	Item.UPC	1/30, AN
Item Tax Amount	O	L_TAXAMTn	Item.TaxAmt	1/6, NUM
Freight Amount	O	L_FREIGHTAMTn	Item.FreightAmt	1/15, NUM
Handling Amount	O	L_HANDLINGAMTn	Item.HandlingAmt	1/15, NUM
Tracking Number	O	L_TRACKINGNUMn	Item.TrackingNumber	1/30, AN
Drop-off Address1	O	L_PICKUPSTREETn	Item.PickUp.Address.Street	1/40, AN
Drop-off City	O	L_PICKUPCITYn	Item.PickUp.Address.City	2/30, AN
Drop-off State	O	L_PICKUPSTATEn	Item.PickUp.Address.State	2/2, AN
Drop-off ZIP	O	L_PICKUPZIPn	Item.PickUp.Address.ZIP	3/15, AN
Drop-off Country	O	L_PICKUPCOUNTRYn	Item.PickUp.Address.Country	2/3, AN
UNSPSC Code	O	L_UNSPSCCODEn	Item.UNSPSCCode	1/30, AN

Example American Express Phoenix Level 3 Transaction Parameter String

```
"TRXTYPE=S&TENDER=C&partner=partner&PWD=test&USER=test&ACCT=378734493671000
&EXPDATE=1213&AMT=5.00&COMMENT1=PCARD Test&COMMENT2=Hi
KC&ZIP=940151234&STREET=123 KC
WAY&CVV2=052&SHIPTOCOUNTRY=USA&CUSTCODE=12345&FREIGHTAMT=1.00&ORDERDATE=021
700&HANDLINGAMT=1.00&PONUM=1234567890123456789012345&SHIPFROMZIP=940151234&
SHIPTOZIP=940151234&TAXAMT=1.00&TAXEXEMPT=N&L_UPC1=PN&L_QTY1=1&L_DESC1=Test
123&L_UOM1=12&L_COST1=1.00&L_PRODCODE1=123&L_COSTCENTERNUM1=55&L_TAXAMT1=0&
L_QTY2=1&L_UPC1=PN&L_DESC2=Test&L_UOM2=12&L_COST2=1.00&L_PRODCODE2=1234&L_C
OSTCENTERNUM2=55&L_TAXAMT2=1.00&REQNAME=Robert&SHIPTOZIP=543210&INVNUM=1234
56789&VERBOSITY=2"
```

Example American Express Phoenix Level 3 XMLPay Transaction

The following example shows how American Express Phoenix Level 3 parameters appear in the context of an XMLPay transaction request.

```
<?xml version="1.0" ?>
<XMLPayRequest Timeout="30">
  <RequestData>
    <Vendor>VENDOR</Vendor>
    <Partner>PARTNER</Partner>
    <Transactions>
      <Transaction CustRef="CUST98345232345">
        <Sale>
          <PayData>
            <Invoice>
              <InvNum>123456789</InvNum>
              <Date>20030626</Date>
              <ExtData Name="REQNAME" Value="Test@test.com" />
              <BillTo>
                <PONum>PO7659200</PONum>
                <Name>John</Name>
                <Address>
                  <Street>123 Test</Street>
                  <City>Mountian View</City>
                  <State>CA</State>
                  <Zip>12345</Zip>
                  <Country>840</Country>
                </Address>
                <EMail>Test@Test.com</EMail>
              </BillTo>
              <ShipFrom>
                <Address>
                  <Street>456 Test</Street>
                  <City>Mountian View</City>
                  <State>CA</State>
                  <Zip>543210</Zip>
                </Address>
```

```

</ShipFrom>
<ShipTo>
  <Address>
    <Street>789 Test</Street>
    <City>Mountian View</City>
    <State>CA</State>
    <Zip>99999</Zip>
    <Country>840</Country>
  </Address>
</ShipTo>
<Items>
  <Item Number="1">
    <SKU>EAD240</SKU>
    <UPC>67899</UPC>
    <Description>Ducati parts</Description>
    <Quantity>2</Quantity>
    <UnitPrice>.10</UnitPrice>
    <UnitOfMeasurement>10</UnitOfMeasurement>
    <CostCenterNumber>5000</CostCenterNumber>
    <TrackingNumber>TR42322</TrackingNumber>
    <UNSPSCCode>UNSPSC001</UNSPSCCode>
    <CatalogNumber>1551</CatalogNumber>
    <PickUp>
      <Address>
        <Street>112 Pickup Ave</Street>
        <City>Pickup City</City>
        <State>CA</State>
        <Zip>94043</Zip>
        <Country>840</Country>
      </Address>
    </PickUp>
    <FreightAmt>0.50</FreightAmt>
    <HandlingAmt>0.50</HandlingAmt>
  </Item>
  <Item Number="2">
    <SKU>42335</SKU>
    <UPC>45578</UPC>
    <Description>Honda Parts</Description>
    <Quantity>1</Quantity>
    <UnitPrice>.10</UnitPrice>
    <UnitOfMeasurement>50</UnitOfMeasurement>
    <CostCenterNumber>5003</CostCenterNumber>
    <TrackingNumber>TR34225</TrackingNumber>
    <UNSPSCCode>UNSPSC002</UNSPSCCode>
    <CatalogNumber>1555</CatalogNumber>
    <PickUp>
      <Address>
        <Street>113 Pickup Ave</Street>
        <City>Pickup City</City>
        <State>CA</State>
        <Zip>94043</Zip>

```

```

        <Country>840</Country>
      </Address>
    </PickUp>
    <FreightAmt>0.50</FreightAmt>
    <HandlingAmt>0.50</HandlingAmt>
  </Item>
  <Item Number="3">
    <SKU>12347</SKU>
    <UPC>54329</UPC>
    <Description>Harley Parts</Description>
    <Quantity>2</Quantity>
    <UnitPrice>.10</UnitPrice>
    <UnitOfMeasurement>15</UnitOfMeasurement>
    <CostCenterNumber>5009</CostCenterNumber>
    <TrackingNumber>TR32223</TrackingNumber>
    <UNSPSCCode>UNSPSC003</UNSPSCCode>
    <CatalogNumber>1560</CatalogNumber>
    <PickUp>
      <Address>
        <Street>114 Pickup Ave</Street>
        <City>Pickup City</City>
        <State>CA</State>
        <Zip>94043</Zip>
        <Country>840</Country>
      </Address>
    </PickUp>
    <FreightAmt>0.50</FreightAmt>
    <HandlingAmt>0.50</HandlingAmt>
  </Item>
</Items>
<Description>CAR PARTS</Description>
<TaxAmt>1.60</TaxAmt>
<TotalAmt>5.10</TotalAmt>
</Invoice>
<Tender>
  <Card>
    <CardType>AMEX</CardType>
    <CardNum>378734493671000</CardNum>
    <ExpDate>201312</ExpDate>
  </Card>
</Tender>
</PayData>
</Sale>
</Transaction>
</Transactions>
</RequestData>
  <RequestAuth>
    <UserPass>
      <User>USER</User>
      <Password>PASSWORD</Password>
    </UserPass>
  </RequestAuth>
</RequestData>

```

```
</RequestAuth>
</XMLPayRequest>
```

Performing Purchasing Card Transactions, First Data Merchant Services (FDMS) Nashville

The following parameters are recommended to obtain the best rates for purchasing card transactions with FDMS Nashville.

TABLE D.4 *FDMS commercial card parameters*

Parameter	Description	Required	Type	Length
COMMCARD	One-character value representing type of purchasing card account number sent. P Purchase Card C Corporate Card B Business Card U Unknown (default) N None	No (defaults to U - Unknown)	Alpha-numeric	1
DUTYAMT	Sometimes called import tax. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	No	Currency	10
FREIGHTAMT	Freight Amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	No	Currency	10
PONUM	Purchase Order Number.	No (but provides best rate when used)	Alpha-numeric	25
SHIPTOZIP	Ship to postal code (called ZIP code in the USA).	No (but provides best rate when used)	Numeric	9
TAXAMT	Tax Amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	No (but provides best rate when used)	Currency	10
TAXEXEMPT	Is the customer tax exempt? Y or N	No	Alpha	1

Performing Purchasing Card Transactions, First Data Merchant Services (FDMS) North

The following parameters are recommended to obtain the best rates for purchasing card transactions (Level 2/3) with FDMS North:

TABLE D.5 *FDMS North purchase card parameters*

Parameter	Description	Required	Type	Length
SHIPTOCOUNTRY	Destination Country Code. Visa and MasterCard are different. Refer to Country Code tables. (See Appendix G, “ISO Country Codes”)	No	Alpha	4
DISCOUNT	Discount amount on total sale	No	Currency	10
DUTYAMT	Sometimes called import tax. If the currency uses a decimal, then the value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See “ FDMS South Currency Codes and Decimal Positions ” on page 170.	No	Currency	10
FREIGHTAMT	Freight Amount If the currency uses a decimal, then the value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See “ FDMS South Currency Codes and Decimal Positions ” on page 170.	No	Currency	10
PONUM	Purchase Order Number / Merchant related data.	No (but provides best rate when used)	Alpha-numeric	25
SHIPFROMZIP	The postal code (called ZIP code in the USA) from which shipping occurs.	No (but provides best rate when used)	Numeric	9
SHIPTOZIP	Ship to postal code (called ZIP code in the USA).	No (but provides best rate when used)	Numeric	9

TABLE D.5 FDMS North purchase card parameters (Continued)

Parameter	Description	Required	Type	Length
TAXAMT	Tax Amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See “FDMS South Currency Codes and Decimal Positions” on page 170.	No (but provides best rate when used)	Currency	10

Purchase Card Line Item Parameters, FDMS North

Line item data (Level 3) describes the details of the item purchased and can be passed for each transaction. The convention for passing line item data in name/value pairs is that each name/value starts with L_ and ends with n where n is the line item number. For example L_QTY0=1 is the quantity for line item 0 and is equal to 1, with n starting at 0. In addition, the SHIPFROMZIP parameter is required for Level 3 transactions.

TABLE D.6 Purchase card line item parameters

Parameter	Description	Required	Type	Length
L_QTYn	Quantity (whole units only).	Yes	Numeric	10
L_COMMCODEn	Item commodity code.	No	Alpha-numeric	12
L_DESCn	Item description.	No	Alpha-numeric	35
L_UOMn	Item unit of measure. See “Units of Measure” on page 165.	No	Alpha	3
L_COSTn	Cost per item, excluding tax.	No	Currency	10
L_UPCn	Supplier specific product code.	No	Alpha-numeric	12
L_DISCOUNTn	Discount per line item.	No	Currency	10
L_AMTn	Total line item amount including tax and discount. + for debit, - for credits.	Yes	Currency	10
L_TAXAMTn	Line item Tax amount.	No	Currency	10

Performing Purchasing Card Transactions, First Data Merchant Services (FDMS) South

The following parameters are recommended to obtain the best rates for purchasing card transactions (Level 2/3) with FDMS South:

TABLE D.7 FDMS South purchase card parameters

Parameter	Description	Required	Type	Length
CITY	Cardholder's city.	No	Alpha	13
SHIPTOCOUNTRY	Destination Country Code. Visa and MasterCard are different. Refer to Country Code tables. (See Appendix G, "ISO Country Codes")	No	Alpha	4
CUSTCODE	Customer code/customer reference ID.	No	Alpha-numeric	17
DISCOUNT	Discount amount on total sale.	No	Currency	10
DUTYAMT	Sometimes called import tax. If the currency uses a decimal, then the value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See "FDMS South Currency Codes and Decimal Positions" on page 170.	No	Currency	10
FIRSTNAME	Cardholder's first name.	No	Alpha	15
FREIGHTAMT	Freight Amount. If the currency uses a decimal, then the value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See "FDMS South Currency Codes and Decimal Positions" on page 170.	No	Currency	10
INVNUM	Merchant invoice number. This reference number (PNREF—generated by PayPal) is used for authorizations and settlements. The Acquirer decides if this information will appear on the merchant's bank reconciliation statement.	No	Alpha-numeric	9
LASTNAME	Cardholder's last name.	No	Alpha	15
ORDERDATE	Order date. Format is mmddyy with no slashes or dashes. For example, July 28, 2003 is 072803.	No	Numeric	6

Submitting Purchasing Card Level 2 and Level 3 Transactions

Performing Purchasing Card Transactions, First Data Merchant Services (FDMS) South

TABLE D.7 FDMS South purchase card parameters (Continued)

Parameter	Description	Required	Type	Length
ORDERTIME	Order time and date. Format is either YYYY-MM-DD or YYYY-MM-DD HH:MI:SS (where HH is in 24-hour time). If the value does not conform to one of the formats or if the date is not valid (for example, 2004-17-35), then the transaction is rejected with a RESULT=7 (SIG_FIELD_ERR) and RESPMSG=Invalid ORDERTIME. A truncated version of the ORDERTIME value (up to 7 characters) overwrites any value provided by ORDERDATE. If no value is provided, a NULL value is stored.	No	Alphanumeric	19
PONUM	Purchase Order Number / Merchant related data.	No (but provides best rate when used)	Alpha-numeric	25
SHIPFROMZIP	The postal code (called ZIP code in the USA) from which shipping occurs.	No (but provides best rate when used)	Numeric	9
SHIPTOZIP	Ship to postal code (called ZIP code in the USA).	No (but provides best rate when used)	Numeric	9
STATE	Cardholder's state.	No	Alpha	2
SWIPE	Allows Track 1 and Track 2 data to be passed to enable a card-present transaction.	No	Alpha-numeric	80
TAXAMT	Tax Amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). See "FDMS South Currency Codes and Decimal Positions" on page 170.	No (but provides best rate when used)	Currency	10
TAXEXEMPT	Is the customer tax exempt? Y or N	No	Alpha	1

Purchase Card Line Item Parameters, FDMS South

Line item data describes the details of the item purchased and can be passed for each transaction. The convention for passing line item data in name/value pairs is that each

name/value starts with L_ and ends with n where n is the line item number. For example L_QTY0=1 is the quantity for line item 0 and is equal to 1, with n starting at 0.

TABLE D.8 Purchase card line item parameters

Parameter	Description	Required	Type	Length
L_QTYn	Quantity (whole units only).	Yes	Numeric	10
L_COMMCODEn	Item commodity code.	No	Alpha-numeric	12
L_DESCn	Item description.	No	Alpha-numeric	35
L_UOMn	Item unit of measure. See “Units of Measure” on page 165 .	No	Alpha	3
L_COSTn	Cost per item, excluding tax.	No	Currency	10
L_PRODCODEn	Supplier-specific product code.	No	Alpha-numeric	12
L_DISCOUNTn	Discount per line item.	No	Currency	10
L_AMTn	Total line item amount including tax and discount. + for debit, - for credits.	Yes	Currency	10
L_TAXAMTn	Line item Tax amount.	No	Currency	10

FDMS South Purchase Card Level 2 and 3 Example Parameter String

```
"TRXTYPE=S&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&
PWD=x1y2z3&STATE=CA&FIRSTNAME=John&LASTNAME=Smith&CITY=Redwood&SHIPTOCOUNTRY=USA&CUSTCODE=12345&DISCOUNT=.25&DUTYAMT=34.00&FREIGHTAMT=12.00&INVNUM=123456789&ORDERDATE=021700&PONUM=1234567890123456789012345&SHIPFROMZIP=940151234&SHIPTOZIP=94065&TAXAMT=1.00&TAXEXEMPT=Y"
```

FDMS South Line Item Parameter Example Parameter String

```
"TRXTYPE=S&TENDER=C&PARTNER=PayPal&VENDOR=SuperMerchant&USER=SuperMerchant&
PWD=x1y2z3&STATE=CA&FIRSTNAME=John&LASTNAME=Smith&CITY=Redwood&SHIPTOCOUNTRY=USA&CUSTCODE=12345&DISCOUNT=.25&DUTYAMT=34.00&FREIGHTAMT=12.00&INVNUM=123456789&ORDERDATE=021700&PONUM=1234567890123456789012345&SHIPFROMZIP=940151234&SHIPTOZIP=94065&TAXAMT=1.00&TAXEXEMPT=Y&L_QTY1=1&L_UPC1=PN&L_DESC1=Test&L_UOM1=INQ&L_COST1=1.00&L_PRODCODE1=12345&L_DISCOUNT1=.25&&L_AMT1=.75&L_TAXAMT1=0"
```

Performing Purchasing Card Transactions, Global Payments - Central

Global Payments - Central (MAPP) supports Level 2 for MasterCard, and Visa Sale, Credit, and Delayed Capture transactions.

Global Payments - Central Level 2 Parameters

Both Level 2 values listed in [Table D.9](#) are required to get the discount rate. You must pass the following parameters.

TABLE D.9 Required Level 2 parameters for Global Payments - Central

Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Code	M	CUSTCODE	1/16, Char
Sales Tax	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	NUM

Example Global Payments - Central Level 2 Visa or MasterCard Transaction Parameter String

```
"TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&NAME=Cardholder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St.&TENDER=C&USER=user&ZIP=94043&CUSTCODE=123456&TAXAMT=1.34"
```

Performing Purchasing Card Transactions, Global Payments - East

Global Payments - East (NDCE) supports Level 2 for American Express, MasterCard, and Visa.

Global Payments - East Level 2 Parameters

Both Level 2 values listed in [Table D.10](#) are required to get the discount rate. You must pass the following parameters in Authorization and Sale transactions.

TABLE D.10 Required Level 2 parameters for Global Payments - East

Data Items	Payflow Parameter	Required	Type	Length (min/ max)
Customer Code	CUSTCODE	Yes	char	1/16
Sales Tax	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	Yes	numeric	

Example Global Payments - East Level 2 Visa or MasterCard Transaction Parameter String

```
"TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&NAME=Cardholder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St.&TENDER=C&USER=user&ZIP=94043&CUSTCODE=123456&TAXAMT=1.34"
```

Performing Purchasing Card Transactions, Nova

Nova supports Level 2 for Visa or MasterCard Sale, Credit, or Delayed Capture transactions.

Nova Level 2 Parameters

Both Level 2 values listed in [Table D.11](#) are required to get the discount rate. You must pass the following parameters in Authorization and Sale transactions.

TABLE D.11 Required Level 2 parameters for Nova

Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Code	M	CUSTCODE Value of {ServerID}{TransID} is sent if no value is provided.	1/16, char

TABLE D.11 Required Level 2 parameters for Nova

Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Sales Tax	M	TAXAMT Value of 0 (zero) is sent if no value is provided. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM

Additional Parameters, Nova

The following parameters are recommended to obtain the best rates for purchasing card transactions with Nova:

TABLE D.12 Purchasing card parameters, Nova

Parameter	Description	Required	Type	Length
COMMCARD	One-character value representing the type of commercial card. P Purchase Card C Corporate Card B Business Card U Unknown (default) N None	No (defaults to U - Unknown)	AN	1
PONUM	Purchase Order Number.	No (when used provides best rate)	AN	25
TAXAMT	Tax Amount. The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	No (when used provides best rate)	Currency	10

Example Nova Level 2 Transaction Parameter String

```
"TRXTYPE=S&ACCT=5105105105105100&AMT=20.10&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&NAME=Cardholder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St. &TENDER=C&USER=user&ZIP=94043&CUSTCODE=123456&TAXAMT=1.34"
```


Performing Level 2 Purchasing Card Transactions, Paymentech New Hampshire

Paymentech New Hampshire supports Level 2 for American Express, MasterCard, and Visa.

Paymentech New Hampshire Level 2 Parameters

Both Level 2 values listed in [Table D.13](#) are required to get the discount rate.

TABLE D.13 Required Level 2 parameters for Paymentech New Hampshire

Paymentech Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Ref No	M	PONUM	1/17, char
Sales Tax	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	NUM

Example Paymentech New Hampshire Level 2 Transactions

Example Paymentech New Hampshire Level 2 Visa and MasterCard Transaction Parameter String

```
"TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=54801800000  
00024&EXPDATE=1203&AMT=1.00&COMMENT1=0508&NAME=Robert&STREET=1600&ZIP=94065  
&CVV2=426&PONUM=ABCDEFGH IJ&TAXAMT=1.00"
```

```
"TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=42753300123  
45626&EXPDATE=1203&AMT=1.00&COMMENT1=0508&STREET=1600&ZIP=94065&CVV2=426&PO  
NUM=ABCDEFGH IJ&TAXAMT=1.00"
```

Example American Express Level 2 Transaction Parameter String

```
"TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=37873449367  
1000&EXPDATE=1203&AMT=1.00&COMMENT1=0508&NAME=Robert&STREET=1600&ZIP=94065&  
DESC=Descriptor&DESC1=Descriptor1&DESC2=Descriptor2&DESC3=Descriptor3&DESC4  
=Descriptor4"
```

Performing Level 2 Purchasing Card Transactions, Paymentech Tampa

Paymentech Tampa supports Level 2 for MasterCard and Visa.

Paymentech Tampa Level 2 Parameters

TABLE D.14 Level 2 parameters for Paymentech Tampa

Paymentech Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Ref No	M	PONUM	1/17, char
Sales Tax	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	NUM
Tax Exempt	O	TAXEXEMPT, Y or N. Contact your acquiring bank to determine if your transactions are tax exempt.	1
Ship to ZIP Code	O	SHIPTOZIP (called ZIP code in the USA).	1/16

Example Paymentech Tampa Level 2 Transactions

Example Paymentech Tampa Level 2 Visa and MasterCard Transaction Parameter String

```
"TRXTYPE=S&TENDER=C&PWD=PWD&USER=USER&PARTNER=PARTNER&ACCT=4275330012345675
&EXPDATE=0209&AMT=12.59&VERBOSITY=1&STREET=123 main
street&ZIP=49801&CVV2=248&TAXAMT=1.22&PONUM=
AB12345678&SHIPTOZIP=98765&TAXEXEMPT=N"
```

Performing Level 2 Purchasing Card Transactions, Vital

Vital supports MasterCard and Visa for Level 2.

Vital indicates in the authorization response whether or not the credit card in the transaction is a commercial card. Based in the commercial card indicator, PayPal will format the Level 2 information in the settlement request.

Vital Level 2 Transaction Data

Level 2 values marked as mandatory in [Table D.15](#) are required to get the discount rate.

TABLE D.15 Vital Level 2 parameters

Vital Name	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Cust Ref ID	M	PONUM	1/17, AN
Tax Amount	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Tax Amount Identifier	O	TAXEXEMPT, Y or N	1, A

Example Vital Level 2 Visa Transaction Parameter String

```
"TRXTYPE=S&ACCT=4111111111111111&AMT=20.02&CITY=Mountain View&COMMENT1=L2
Testing&EXPDATE=1209&INNUM=661254585&NAME=CardHolder
Name&PARTNER=PayPal&PWD=pwd&STATE=CA&STREET=123 Main
St.&TAXAMT=1.01&TAXEXEMPT=N&TENDER=C&USER=user&ZIP=94043"
```

Performing Level 3 Purchasing Card Transactions, Paymentech New Hampshire

Paymentech New Hampshire supports Level 3 for MasterCard and Visa.

Both Level 2 transaction parameters are required for Level 3 transactions. Level 3 transactions that do not include the Level 2 values are rejected.

Paymentech New Hampshire Level 2 Transaction Data Required for Level 3 Transactions

Both Level 2 values listed in [Table D.16](#) are required to get the discount rate.

TABLE D.16 Required Paymentech New Hampshire Level 2 parameters

Paymentech Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Customer Ref No	M	PONUM	1/17, char

TABLE D.16 Required Paymentech New Hampshire Level 2 parameters

Paymentech Data Items	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Sales Tax	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56). To qualify for Level 2 discounts, this value must not be all zeros or blank spaces.	NUM

Paymentech New Hampshire Level 3 MasterCard Transaction Data

TABLE D.17 *Paymentech New Hampshire Level 3 MasterCard order and line-item parameters*

Paymentech MasterCard data item	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Order			
Freight Amt	M	FREIGHTAMT	NUM
Duty Amt	M	DUTYAMT	NUM
Destination ZIP	M	SHIPTOZIP	
Destination Country	M	SHIPTOCOUNTRY	
Ship from ZIP	M	SHIPPEDFROMZIP	
Discount Amount	M	DISCOUNT	NUM
Alternate Tax ID	M	ALTERNATETAXID	
Alternate Tax Amt	M	ALTERNATETAXAMT	NUM
Line Item Record #1			
Description	M	L_DESCn	
Product Code	O	L_PRODCODEn	
Quantity	M	L_QTYn	NUM
Unit of measure	M	L_UOMn	
Tax Amt	O	TAXAMTn	NUM
Tax Rate	O	TAXPERCENTAGEN	
Line Item Record #2			
Line-item Total	O	L_AMTn	NUM
Discount Amt	O	L_DISCOUNTn	NUM
Tax Type Applied	O	L_TAXTYPEn	

Paymentech New Hampshire Level 3 Visa Transaction Data

Level 3 transactions should include at least one line item.

TABLE D.18 Paymentech New Hampshire Level 3 Visa order and line-item parameters

Paymentech Visa data item	Mandatory / Optional	Payflow Parameter	Format (min/max, type)
Order			
Freight Amt	M	FREIGHTAMT	NUM
Duty Amt	M	DUTYAMT	NUM
Destination ZIP	M	SHIPTOZIP	
Destination Country	M	SHIPTOCOUNTRY	
Ship from ZIP	M	SHIPPEDFROMZIP	
Discount Amount	M	DISCOUNT	NUM
VAT/Tax Amt	M	TAXAMT	NUM
VAT/Tax Rate	M	TAXPERCENTAGE	
Line Item Record #1			
Description	M	L_DESCn	
Product Code	M	L_PRODCODEn	
Quantity	M	L_QTYn	NUM
Unit of measure	M	L_UOMn	
Tax Amt	O	L_TAXAMTn	NUM
Tax Rate	O	L_TAXRATEn	
Line Item Record #2			
Line-item Total	M	L_AMTn	NUM
Discount Amt	M	L_DISCOUNTn	NUM
Item commodity code	M	L_UPCn	
Unit cost	M	L_COSTn	NUM

Example Paymentech New Hampshire Level 3 Transaction Parameter Strings

Example Paymentech New Hampshire Level 3 MasterCard Transaction

```
"TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=54801800000
00024&EXPDATE=1203&AMT=1.00&COMMENT1=0508&NAME=Robert&STREET=1600&ZIP=94065
&CVV2=426&PONUM=ABCDEFGHJIJ&TAXAMT=1.00&FREIGHTAMT=2.00&DUTYAMT=3.00&SHIPTOZ
IP=94543&SHIPTOCOUNTRY=840&SHIPFROMZIP=94509&ALTERNATETAXID=10&ALTERNATETAX
AMT=4.00&L_DESC1=MC Pcard&L_UPC1=1&L_QTY1=2&L_UOM1=3&L_TAXAMT1=4&L_TAXRATE1
=5&L_AMT1=6&L_DISCOUNT1=7&L_TAXTYPE1=8"
```

Example Paymentech New Hampshire Level 3 Visa Transaction

```
"TRXTYPE=S&TENDER=C&PARTNER=Partner&PWD=Password&USER=User&ACCT=42753300123
45626&EXPDATE=1203&AMT=1.00&COMMENT1=0508&NAME=Robert&STREET=1600&ZIP=94065
&CVV2=426&PONUM=ABCDEFGHJIJ&TAXAMT=1.00&FREIGHTAMT=2.00&DUTYAMT=3.00&SHIPTOZ
IP=94543&SHIPTOCOUNTRY=840&SHIPFROMZIP=94509&DISCOUNT=4.00&VATAXAMT=5.00&VA
TAXPERCENT=10&L_DESC1=Vital Pcard&L_UPC1=1&L_UOM1=2&L_QTY1=3&L_TAXAMT1=4&L_
TAXRATE1=5&L_AMT1=6&L_DISCOUNT1=7&L_COMMCODE1=8&L_COST1=9&L_COST1=10"
```

Performing Level 3 MasterCard Transactions, Vital

To qualify for Level 3, the authorization response for the transaction must have the commercial card indicator set and one or more line items should be present in the Delayed Capture or Sale request.

Level 2 transaction parameters marked as mandatory are required for Level 3 transactions. Level 3 transactions that do not include the mandatory Level 2 values are rejected.

IMPORTANT: *The values required for Level 3 status vary by bank, so contact your bank for details.*

Vital Level 2 MasterCard Transaction Data for Line-Item Transactions Required for Level 3 Transactions

TABLE D.19 Vital Level 2 MasterCard transaction data for line-item transactions

Vital Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Purchase Identifier	M	PONUM Value of TransID is sent if no value is provided.	25, AN
Tax Amt	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Lcl Tax	O	LOCALTAXAMT	12, NUM
Lcl Tax Incl Flag	O	TAXEXEMPT, Y or N	1, AN
National Tax Amt	O	NATIONALTAXAMT You may omit this parameter if there is no such tax.	12, NUM
Purch Ord #/Cust Ref ID	M	INVNUM Value of PNREF is sent if no value is provided.	9, AN

Vital Level 3 MasterCard Extended Data

The parameters listed in [Table D.20](#) apply to Level 3 MasterCard transactions as extended data.

TABLE D.20 Vital Level 3 MasterCard Extended Data

Vital Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Freight Amt	O	FREIGHTAMT	12, NUM
Duty Amt	O	DUTYAMT	12, NUM
Dest Postal / ZIP Code	M	SHIPTOZIP The ZIP code of the address to which the goods are shipped.	10, AN
Ship from Postal / ZIP Code	M	SHIPFROMZIP The postal code (called ZIP code in the USA) from which shipping occurs.	10, AN
Dest Country Code	O	SHIPTOCOUNTRY	4, AN
Alt Tax Amt	O	ALTTAXAMT	9, NUM

Vital Level 3 MasterCard Line-item Detail Records

TABLE D.21 Vital Level 3 MasterCard line-item detail record

Vital Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
NOTE: For these values, n is a sequence counter that should begin with 1 and increase in sequence. Each line item should also contain quantity (L_QUANTITY<n>) and unit price (L_COST<n>) fields.			
Item Descriptor	M	L_DESCn	35, AN
Product Code	O	L_UPCn	12, AN
Quantity	M	L_QTYn	12, NUM
Unit of Measure/Code	M	L_UOMn	12, AN
Tax Rate Applied	O	L_TAXRATEn	4, NUM
Tax Type Applied	O	L_TAXTYPEn	4, AN
Tax Amount	O	L_TAXAMTn	12, NUM
Discount Amount	O	L_DISCOUNTn	12, NUM

Example Vital Level 3 MasterCard Transaction Parameter String

```
"TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=55250000000
00005&EXPDATE=0406&AMT=1.00&STREET=5199
JOHNSON&ZIP=94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.00&NATIO
NALTAXAMT=1.00&COMMCODE=22222&VATAXAMT=1.00&VATAXPERCENT=10&TAXEXEMPT=Y&DIS
COUNT=1.00&FREIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&S
HIPTOCOUNTRY=840&ORDERDATE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line
item 1
description&L_UPC1=CBA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.00&L
_TAXAMT1=1.00&L_TAXRATE1=1.00&L_DISCOUNT1=1.00&L_AMT1=1.00&L_TAXTYPE1=TT3"
```

Performing Level 3 Visa Transactions, Vital

To qualify for Level 3, the authorization response for the transaction must have the commercial card indicator set and one or more line items should be present in the Delayed Capture or Sale request.

Level 2 transaction parameters marked as mandatory are required for Level 3 transactions. Level 3 transactions that do not include the mandatory Level 2 values are rejected.

IMPORTANT: The values required for Level 3 status vary by bank, so contact your bank for details.

Vital Level 2 Visa Transaction Data for Line-Item Transactions (Required for Level 3)

TABLE D.22 Vital Level 2 Visa transaction data for line-item transactions

Vital Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Purchase Identifier	M	PONUM Value of TransID is sent if no value is provided.	25, AN
Tax amount	M	TAXAMT The value must include a decimal and the exact amount to the cent (42.00, not 42). Do not include comma separators (1234.56 not 1,234.56).	NUM
Lcl Tax	O	LOCALTAXAMT	12, NUM
Lcl Tax Incl Flag		TAXEXEMPT, Y or N.	1, AN
National Tax Amt	O	NATIONALTAXAMT	12, NUM
Purch Ord #/Cust Ref ID	M	INVNUM Value of TransID is sent if no value is provided.	9, AN

Vital Level 3 Visa Extended Data

The parameters listed in [Table D.23](#) apply to Level 3 Visa transactions as extended data.

TABLE D.23 Vital Level 3 Visa extended data

Vital Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Summary Commodity Code	M	COMMCODE Commodity code identifier for the business.	4, AN
Discount Amt	O	DISCOUNT	12, NUM
Freight Amt	M	FREIGHTAMT	12, NUM
Duty Amt	O	DUTYAMT	12, NUM
Order Date	O	ORDERDATE Format is mmddyy with no slashes or dashes. For example, July 28, 2003 is 072803	6, NUM
Dest Postal / ZIP Code	M	SHIPTOZIP The ZIP code of the address to which the goods are shipped.	10, AN

TABLE D.23 Vital Level 3 Visa extended data (Continued)

Vital Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
Ship from Postal / ZIP Code	M	SHIPFROMZIP The postal code (called ZIP code in the USA) from which shipping occurs.	10, AN
Dest Country Code	O	SHIPTOCOUNTRY	4, AN
VAT Registration Number	M	VATREGNUM Can be part of the registration data or passed with each transaction.	20, AN
Unique VAT Inv Ref #	M	INVNUM Can be part of the registration data or passed with each transaction.	9, AN
Cust VAT Registr #	M	CUSTVATREGNUM	13, AN
VAT/Tax Amt (Freight/Ship)	O	VATTAXAMT	12, NUM
VAT/Tax Rate (Freight/Ship)	O	VATTAXPERCENT	4, NUM

Vital Level 3 Visa Line-item Detail Records

TABLE D.24 Vital Level 3 Visa line-item detail record

Vital Name	Mandatory / Optional	Payflow Parameter	Length, Data Type
NOTE: For these values, n is a sequence counter that should begin with 1 and increase in sequence. Each line item should also contain quantity (L_QUANTITY<n>) and unit price (L_COST<n>) fields.			
Item Commodity Code	O	L_COMMCODEn	12, AN
Item Descriptor	M	L_DESCn	35, AN
Product Code	M	L_UPCn	12, AN
Quantity	M	L_QTYn	12, NUM
Unit of Measure/Code	M	L_UOMn	12, AN
Unit Cost	M	L_COSTn	12, NUM
VAT/Tax Amount	O	L_TAXAMTn	12, NUM
VAT/Tax Rate	O	L_TAXRATEn	4, NUM
Discount Per Line Item	M	L_DISCOUNTn	12, NUM
Line-item Total	O	L_AMTn	12, NUM

Example Vital Level 3 Visa Transaction Parameter String

```
"TRXTYPE=S&TENDER=C&PARTNER=Partner&USER=User&PWD=Password&ACCT=4111111111111111&EXPDATE=0406&AMT=1.00&STREET=5199
JOHNSON&TAXAMT=106&ZIP=94588&ALTTAXAMT=1.00&CUSTVATREGNUM=11111&LOCALTAXAMT=1.01&NATIONALTAXAMT=1.02&COMMCODE=22222&VATAXAMT=1.03&VATAXPERCENT=55&TAXEXEMPT=N&DISCOUNT=.50&FREIGHTAMT=1.00&DUTYAMT=1.00&SHIPTOZIP=33333&SHIPFROMZIP=44444&SHIPTOCOUNTRY=840&ORDERDATE=020725&L_COMMCODE1=123456789ABC&L_DESC1=Line item 1
description&L_UPC1=CBA987654321&L_QTY1=1&L_UOM1=123456789012&L_COST1=1.50&L_TAXAMT1=1.05&L_TAXRATE1=12&L_DISCOUNT1=.50&L_AMT1=1.00&L_TAXTYPE1=TT1"
```



Verbosity: Viewing Processor-Specific Transaction Results

Transaction results (especially values for declines and error conditions) returned by each PayPal-supported processor vary in detail level and in format. The Payflow Verbosity parameter enables you to control the kind and level of information you want returned.

By default, Verbosity is set to LOW. A LOW setting causes PayPal to normalize the transaction result values. Normalizing the values limits them to a standardized set of values and simplifies the process of integrating the Payflow SDK.

By setting Verbosity to MEDIUM, you can view the processor's raw response values. This setting is more "verbose" than the LOW setting in that it returns more detailed, processor-specific information.

Supported Verbosity Settings

The following Verbosity settings are supported for PayPal-supported processors. Contact your processor or bank for definitions of the returned values.

- **LOW:** This is the default setting for PayPal accounts. The following values are returned: {RESULT, PNREF, RESPMMSG, AUTHCODE, AVSADDR, AVSZIP, CVV2MATCH, IAVS, CARDSECURE}
- **MEDIUM:** All of the values returned for a LOW setting, plus the following values:

NOTE: For information on interpreting the responses returned by the processor for the MEDIUM Verbosity setting, contact your processor directly.

TABLE E.1 *Verbosity settings*

Field Name	Type	Length	Description
HOSTCODE	Char	7	Response code returned by the processor. This value is not normalized by PayPal.
RESPTEXT	Char	17	Text corresponding to the response code returned by the processor. This text is not normalized by PayPal.
PROCAVS	Char	1	AVS response from the processor
PROCCVV2	Char	1	CVV2 (buyer authentication) response from the processor
PROCCARDSECURE	Char	1	VPAS/SPA response from the processor

TABLE E.1 *Verbosity settings (Continued)*

Field Name	Type	Length	Description
ADDLMSG	char	Up to 1048 characters. Typically 50 characters.	Additional error message that indicates that the merchant used a feature that is disabled
TRANSSTATE	Integer	10	State of the transaction. The values are: 0 = General succeed state 1 = General error state 3 = Authorization approved 6 = Settlement pending (transaction is scheduled to be settled) 7 = Settlement in progress (transaction involved in a currently ongoing settlement) 8 = Settled successfully 9 = Authorization captured (once an authorization type transaction is captured, its TRANSSTATE becomes 9) 10 = Capture failed (an error occurred while trying to capture an authorization because the transaction was already captured) 11 = Failed to settle (transactions fail settlement usually because of problems with the merchant's processor or because the card type is not set up with the merchant's processor) 12 = Unsettled transaction because of incorrect account information 14 = For various reasons, the batch containing this transaction failed settlement 15 = Settlement incomplete due to a charge back. 16 = Merchant ACH settlement failed; (need to manually collect it) 106 = Unknown Status Transaction - Transactions not settled. 206 = Transactions on hold pending customer intervention.
DATE_TO_SETTLE	Date format YYYY-MM-DD HH:MM:SS	19	Value available only before settlement has started.
BATCHID	Integer	10	Value available only after settlement has assigned a Batch ID.
SETTLE_DATE	Date format YYYY-MM-DD HH:MM:SS	19	Value available only after settlement has completed.

Table E.2 shows the increments that are possible on basic TRANSSTATE values.

TABLE E.2 TRANSSTATE increments

Increment	Meaning
+100	No client acknowledgment (ACK) is received (=status 0 in V2), for example, 106 is TRANSSTATE 6. Transactions in this range do not settle. For transactions in TRANSSTATE 106, use Auto Resettle in PayPal Manager's Transaction Terminal to submit them for settlement or void them using a manual Void. See PayPal Manager online help for details on using Manager.
+200	The host process never receives ACK from the transaction broker (or backend payment server). A transaction with a TRANSSTATE of +200 is basically in limbo and will not be settled.
+1000	Voided transactions. Any TRANSSTATE of +1000 (for example, 1006) means the transaction was settle pending. However, it was voided either through the API, PayPal Manager, or PayPal Customer Service.

Changing the Verbosity Setting

Setting the Default Verbosity Level for All Transactions

Contact PayPal Customer Service to set your account's Verbosity setting to LOW or MEDIUM for all transaction requests.

Setting the Verbosity Level on a Per-Transaction Basis

To specify a setting for Verbosity that differs from your account's current setting, include the VERBOSITY=<value> name/value pair in the transaction request, where <value> is LOW or MEDIUM.

F

Additional Reporting Parameters

This appendix lists parameters whose values can appear in PayPal Manager reports. For example, the *Shipping and Billing* report displays these values. Some of the following parameters may also have other purposes. The STREET and ZIP parameters, for instance, are also used for AVS.

NOTE: For regular credit card transactions, reporting parameters are normally not passed to the processor. See [Appendix A, “Processors Requiring Additional Transaction Parameters](#) to learn which fields are sent to your processor.

TABLE F.1 *PayPal reporting parameters*

Parameter	Description	Required	Type	Max Length
CITY	Cardholder's billing city	No	Alpha	20
COMMENT1	User-defined value for reporting and auditing purposes (PayPal parameter only)	No	Alpha-numeric	128
COMMENT2	User-defined value for reporting and auditing purposes (PayPal parameter only)	No	Alpha-numeric	128
COMPANYNAME	Cardholder's company	No	Alpha-numeric	30
BILLTOCOUNTRY	Cardholder's billing country code	No	Alpha-numeric	4
CUSTCODE	Customer code	No	Alpha-numeric	30
DUTYAMT	Duty amount	No	Alpha-numeric	10
EMAIL	Cardholder's email address	No	Alpha-numeric	64
FIRSTNAME	Cardholder's first name	No	Alpha	15
FREIGHTAMT	Freight amount	No	Currency	10
LASTNAME	Cardholder's last name	No	Alpha	15
NAME	Cardholder's name	No	Alpha-numeric	15
PONUM	Purchase Order Number	No	Alpha-numeric	15

TABLE F.1 *PayPal reporting parameters* (Continued)

Parameter	Description	Required	Type	Max Length
SHIPTOCITY	Shipping city	No	Alpha-numeric	30
SHIPTOFIRSTNAME	First name in the shipping address	No	Alpha-numeric	30
SHIPTOLASTNAME	Last name in the shipping address	No	Alpha-numeric	30
SHIPTOSTATE	Shipping state. US = 2-letter state code. Outside US, use full name.	No	Alpha-numeric	10
SHIPTOSTREET	Shipping street address	No	Alpha-numeric	30
SHIPTOZIP	Shipping postal code (called ZIP code in the USA)	No	Alpha-numeric	9
STATE	Cardholder's billing state code	No	Alpha-numeric	2
STREET	Cardholder's billing street address (used for AVS and reporting)	No	Alpha-numeric	30
TAXAMT	Tax amount	No	Currency	10
ZIP	Account holder's 5- to 9-digit postal code (called ZIP code in the USA). Do not use spaces, dashes, or non-numeric characters. The postal code is verified by the AVS.	No	Numeric	9



ISO Country Codes

The following International Standards Organization (ISO) country codes are used when filling the order fields BILLTOCOUNTRY, SHIPTOCOUNTRY, and CORPCOUNTRY.

TABLE G.1 Country codes

Country	Code
ALBANIA	AL
ALGERIA	DZ
AMERICAN SAMOA	AS
ANDORRA	AD
ANGUILLA	AI
ANTIGUA AND BARBUDA	AG
ARGENTINA	AR
ARMENIA	AM
ARUBA	AW
AUSTRALIA	AU
AUSTRIA	AT
AZERBAIJAN	AZ
BAHAMAS	BS
BAHRAIN	BH
BANGLADESH	BD
BARBADOS	BB
BELARUS	BY
BELGIUM	BE
BELIZE	BZ
BENIN	BJ
BERMUDA	BM
BOLIVIA	BO

TABLE G.1 Country codes

Country	Code
BOSNIA AND HERZEGOVINA	BA
BOTSWANA	BW
BRAZIL	BR
BRITISH VIRGIN ISLANDS	VG
BRUNEI	BN
BULGARIA	BG
BURKINA FASO	BF
CAMBODIA	KH
CAMEROON	CM
CANADA	CA
CAPE VERDE	CV
CAYMAN ISLANDS	KY
CHILE	CL
CHINA	CN
COLOMBIA	CO
COOK ISLANDS	CK
COSTA RICA	CR
CÔTE D'IVOIRE	CI
CROATIA	HR
CYPRUS	CY
CZECH REPUBLIC	CZ
DENMARK	DK
DJIBOUTI	DJ
DOMINICA	DM
DOMINICAN REPUBLIC	DO
EAST TIMOR	TP
ECUADOR	EC
EGYPT	EG

TABLE G.1 Country codes

Country	Code
EL SALVADOR	SV
ESTONIA	EE
FIJI	FJ
FINLAND	FI
FRANCE	FR
FRENCH GUIANA	GF
FRENCH POLYNESIA	PF
GABON	GA
GEORGIA	GE
GERMANY	DE
GHANA	GH
GIBRALTAR	GI
GREECE	GR
GRENADA	GD
GUADELOUPE	GP
GUAM	GU
GUATEMALA	GT
GUINEA	GN
GUYANA	GY
HAITI	HT
HONDURAS	HN
HONG KONG	HK
HUNGARY	HU
ICELAND	IS
INDIA	IN
INDONESIA	ID
IRELAND	IE
ISRAEL	IL

TABLE G.1 Country codes

Country	Code
ITALY	IT
JAMAICA	JM
JAPAN	JP
JORDAN	JO
KAZAKHSTAN	KZ
KENYA	KE
KUWAIT	KW
LAO PEOPLE'S DEMOCRATIC REPUBLIC	LA
LATVIA	LV
LEBANON	LB
LESOTHO	LS
LITHUANIA	LT
LUXEMBOURG	LU
MACAO	MO
MACEDONIA	MK
MADAGASCAR	MG
MALAYSIA	MY
MALDIVES	MV
MALI	ML
MALTA	MT
MARSHALL ISLANDS	MH
MARTINIQUE	MQ
MAURITIUS	MU
MEXICO	MX
MICRONESIA, FEDERATED STATES OF	FM
MOLDOVA	MD
MONGOLIA	MN
MONTSERRAT	MS

TABLE G.1 Country codes

Country	Code
MOROCCO	MA
MOZAMBIQUE	MZ
NAMIBIA	NA
NEPAL	NP
NETHERLANDS	NL
NETHERLANDS ANTILLES	AN
NEW ZEALAND	NZ
NICARAGUA	NI
NORTHERN MARIANA ISLANDS	MP
NORWAY	NO
OMAN	OM
PAKISTAN	PK
PALAU	PW
PALESTINE	PS
PANAMA	PA
PAPUA NEW GUINEA	PG
PARAGUAY	PY
PERU	PE
PHILIPPINES, REPUBLIC OF	PH
POLAND	PL
PORTUGAL	PT
PUERTO RICO	PR
QATAR	QA
ROMANIA	RO
RUSSIAN FEDERATION	RU
RWANDA	RW
SAINT KITTS AND NEVIS	KN
SAINT LUCIA	LC

TABLE G.1 Country codes

Country	Code
SAINT VINCENT AND THE GRENADINES	VC
SAMOA	WS
SAUDI ARABIA	SA
SENEGAL	SN
SERBIA AND MONTENEGRO	CS
SEYCHELLES	SC
SINGAPORE	SG
SLOVAKIA	SK
SLOVENIA	SI
SOLOMON ISLANDS	SB
SOUTH AFRICA	ZA
SOUTH KOREA	KR
SPAIN	ES
SRI LANKA	LK
SWAZILAND	SZ
SWEDEN	SE
SWITZERLAND	CH
TAIWAN	TW
TANZANIA, UNITED REPUBLIC OF	TZ
THAILAND	TH
TOGO	TG
TONGA	TO
TRINIDAD AND TOBAGO	TT
TUNISIA	TN
TURKEY	TR
TURKMENISTAN	TM
TURKS AND CAICOS ISLANDS	TC
UGANDA	UG

TABLE G.1 Country codes

Country	Code
UKRAINE	UA
UNITED ARAB EMIRATES	AE
UNITED KINGDOM	GB
UNITED STATES OF AMERICA	US
URUGUAY	UY
UZBEKISTAN	UZ
VANUATU	VU
VENEZUELA	VE
VIETNAM	VN
VIRGIN ISLANDS, U.S.	VI
YEMEN ARAB REPUBLIC	YE
ZAMBIA	ZM



About XMLPay

XMLPay specifies an XML syntax for payment requests and associated responses in a payment-processing network. Instead of using name/value pairs, The Payflow SDK allows the use of XML documents based on XMLPay 2.0 schema.

The typical user of XMLPay is an Internet merchant or merchant aggregator who wants to dispatch credit card, corporate purchase card, Automated Clearinghouse (ACH), or other payment requests to a financial processing network.

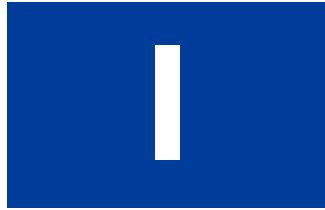
Using the data type definitions specified by XMLPay, such a user creates a client payment request and dispatches it in the same fashion as using name/value pairs to an associated XMLPay-compliant server component. Responses are also formatted in XML and convey the results of the payment requests to the client.

XMLPay 4.2 Core Specification Document

Payflow Pro XMLPay Developer's Guide defines an XML syntax for payment transaction requests, responses, and receipts in a payment processing network.

You may obtain a copy of this document from the Download page of PayPal Manager (<https://manager.paypal.com>).

NOTE: For specific examples of how to submit XML documents using the Payflow client API, see the Payflow SDK Download package.



Codes Used by FDMS South Only

Codes used by FDMS South only are Country Codes, Units of Measure, and Currency Codes.

MasterCard Country Codes

TABLE I.1 *MasterCard country codes*

ALBANIA	ALB
ALGERIA	DZA
AMERICAN SAMOA	ASM
ANDORRA	AND
ANGOLA	AGO
ANGUILLA	AIA
ANTARCTICA	ATA
ANTIGUA	ATG
AO PEOPLES DEMOCRATIC	LAO
APHGANISTAN	AFG
ARGENTINA	ARG
ARMENIA	ARN
ARUBA	ABW
AUSTRALIA	AUS
AUSTRIA	AUT
AZERBAIJAN	AZE
BAHAMAS	BHS
BAHRAIN	BHR
BANGLADESH	BGD
BARBADOS	BRB
BELARUS	BLR
BELGIUM	BEL

TABLE I.1 MasterCard country codes

BELIZE	BLZ
BENIN	BEN
BERMUDA	BMU
BHUTAN	BTN
BOLIVIA	BOL
BOSNIA AND HERZIGOVINA	BIH
BOTSWANA	BWA
BOUVET ISLAND	BVT
BRAZIL	BRA
BRITISH INDIAN OCEAN TERRITORY	IOT
BRUNEI	BRN
BULGARIA	BGR
BURKINA FASO	BFA
BURUNDI	BDI
CAMBODIA	KHM
CANADA	CAN
CAPE VERDE	CPV
CAYMAN ISLANDS	CYM
CENTRAL AFRICAN REPUBLIC	CAF
CHAD	TCD
CHILE	CHL
CHINA	CHN
CHRISTMAS ISLAND	CXR
CMEROON, UNITED REP.	CMR
COCOS (KEELING) ISLAND	CCK
COLOMBIA	COL
COMOROS	COM
CONGO	GOG
COOK ISLANDS	COK
COSTA RICA	CRI

TABLE I.1 MasterCard country codes

COTED'IVOIRE	CIV
CROATIA	HRV
CYPRUS	CYP
CZECH REPUBLIC	CZE
DENMARK	DNK
DJIBOUTI	DJI
DOMINICA	DMA
DOMINICAN REPUBLIC	DOM
EL SALVADOR	SLV
EQUATORIAL GUINEA	GNQ
ESTONIA	EST
ETHIOPIA	ETH
FAEROE ISLANDS	FRO
FALKLAND ISLANDS (MALVINAS)	FLK
FIJI	FJI
FINLAND	FIN
FRANCE	FRA
FRENCH GUIANA	GUF
FRENCH POLYNESIA	PYF
FRENCH SOUTHERN TERRITORY	ATF
GABON	GAB
GAMBIA	GMB
GEORGIA	GEO
GERMAN DEMOCRATIC REP	DDR
GERMANY	DEU
GHANA	GHA
GIBRALTER	GIB
GRECE	GRC
GREENLAND	GRL
GRENADA	GRD
GUADALUPE	GLP

**TABLE I.1 MasterCard country codes**

GUAM	GUM
GUATEMALA	GTM
GUINEA	GIN
GUINEA-BISSAU	GNB
GUYANA	GUY
HAITI	HTI
HEARD & MCDONALDS ISLAND	HMD
HONDURAS	HND
HONG KONG	HKG
HUNGARY	HUN
ICELAND	ISL
INDIA	IND
INDONESIA	IDN
IRAN	IRN
IRAQ	IRQ
IRELAND	IRL
ISRAEL	ISR
ITALY	ITA
JAMAICA	JAM
JAPAN	JPN
JORDAN	JOR
KAZAKHSTAN	KAZ
KENYA	KEN
KOREA, REPUBLIC OF	KOR
KUWAIT	KWT
KYRGYZSTAN	KGZ
LATVIA	LVA
LEBANON	LBN
LESOTHO	LSO
LIBERIA	LBR
LIBYAN ARAB JAMAHIRIYA	LBY

TABLE I.1 MasterCard country codes

LIECHTNSTIEN	LIE
LITHUANIA	LTU
LUXEMBOURG	LUX
MACAU	MAC
MALAYSIA	MYS
MALDIVES	MDV
MALI	MLI
MALTA	MLT
MANACO	MCO
MARSHALL ISLANDS	MHL
MATINIQUE	MTQ
MAURITANIA	MRT
MAURITIUS	MUS
MEXICO	MEX
MICRONESIA	FSM
MOLDOVA	MDA
MONGOLIA	MNG
MONTSERRAT	MSR
MOROCCO	MAR
MOZAMBIQUE	MOZ
MYANMAR	MMR
NAMIBIA	NAM
NAURU	NRU
NEGEL	SEN
NEPAL	NPL
NETHERLANDS	NLD
NETHERLANDS ANTILLES	ANT
NEW CALDONIA	NCL
NEW ZEALAND	NZL
NICARAGUA	NIC
NIGER	NER

TABLE I.1 MasterCard country codes

NIGERIA	NGA
NIUE	NIU
NORFOLK ISLAND	NFK
NORTHERN MARIANA ISLAND	MNP
NORWAY	NOR
OMAN	OMN
PAKISTAN	PAK
PALAU	PLW
PANAMA	PAN
PAPUA NEW GUINEA	PNG
PARAGUAY	PRY
PERU	PER
PHILIPPINES	PHI
PITCAIRN ISLAND	PCN
POLAND	POL
PORTUGAL	PRT
PUERTO RICO	PRI
QATAR	QAT
REUNION	REU
ROMANIA	ROM
RUSSIAN FEDERATION	RUS
RWANDA	RWA
SAMOA	WSM
SAN MARINO	SMR
SAN TOME AND PRINCE	STP
SAUDI ARABIA	SAU
SEYCHELLES	SYC
SIERRA LEONE	SLE
SINGAPORE	SGP
ST. HELENA	SHN
ST. KITTS-NEVIS-ANGUILLA	KNA

TABLE I.1 MasterCard country codes

ST. LUCIA	LCA
ST. PIERRE AND MIQUELON	SPM
ST. VINCENT AND THE GRENADINES	VCT
SUDAN	SDN
SURINAM	SUR
SVALBARD & JAN MAYEN IS.	SJM
SWAZILAND	SWZ
SWEDEN	SWE
SWITZERLAND	CHE
SYRIAN ARAB REPUBLIC	SYR
TAIWAN, PROVINCE OF CHINA	TWN
TAJIKISTAN	TJK
TANZANIA, UNITED REPUBLIC	TZA
THAILAND	THA
TOGO	TGO
TOKELAU	TKL
TONGA	TON
TRINIDAD AND TOBAGO	TTO
TUNISIA	TUN
TURKEY	TR
TURKMENISTAN	TM
TURKS & CAICOS ISLANDS	TC
TUVALU	TUV
U.S. MINOR OUTLYING ISL.	UMI
UGANDA	UGA
UKRAINIAN SSR	UKR
UNITED ARAB EMIRATES	ARE
UNITED KINGDOM	GBR
UNITED STATES	USA
URUGUAY	URY

TABLE I.1 MasterCard country codes

UZBEKISTAN	UZB
VANUATU	VUT
VATICAN CITY STATE	VAT
VENEZUELA	VEN
VIETNAM	VNM
VIRGIN ISLANDS BRITISH	VGB
VIRGIN ISLANDS US	VIR
WALLIS AND FUTUNA IS	WLF
WESTERN SAHARA	ESH
YEMEN	YEM
YUGOSLAVIA	YUG
ZAIRE	ZAR
ZAMBIA	ZMB
ZIMBABWE	RHO

Visa Country Codes

TABLE I.2 Visa country codes

ALBANIA	AL
ALGERIA	DZ
AMERICAN SAMOA	AS
ANDORRA	AD
ANGOLA	AO
ANGUILLA	AI
ANTARCTICA	AQ
ANTIGUA	AG
APHGANISTAN	AF
ARGENTINA	AR
ARMENIA	AM

TABLE I.2 Visa country codes

ARUBA	AW
AUSTRALIA	AU
AUSTRIA	AT
AZERBAIJAN	AZ
BAHAMAS	BS
BAHRAIN	BH
BANGLADESH	BD
BARBADOS	BB
BELARUS	BY
BELGIUM	BE
BELIZE	BZ
BENIN	BJ
BERMUDA	BM

TABLE 1.2 Visa country codes

BHUTAN	BT
BOLIVIA	BO
BOSNIA AND HERZIGOVINA	BA
BOTSWANA	BW
BOUVET ISLAND	BV
BRAZIL	BR
BRITISH INDIAN OCEAN TERRITORY	IO
BRUNEI	BN
BULGARIA	BG
BURKINA FASO	BF
BURUNDI	BI
CAMBODIA	KH
CANADA	CA
CAPE VERDE	CV
CAYMAN ISLANDS	KY
CENTRAL AFRICAN REPUBLIC	CF
CHACOS (KEELING) ISLAND	CC
CHAD	TD
CHILE	CL
CHINA	CN
CHRISTMAS ISLAND	CX
CMEROON, UNITED REP.	CM
COLUMBIA	CO
COMOROS	KM
CONGO	CG
COOK ISLANDS	CK
COSTA RICA	CR
COTED'IVOIRE	CI
CROATIA	HR
CYPRUS	CY

TABLE 1.2 Visa country codes

CZECH REPUBLIC	CZ
DENMARK	DK
DJIBOUTI	DJ
DOMINICA	DM
DOMINICAN REPUBLIC	DO
EAST TIMOR	TP
ECUADOR	EC
EGYPT	EG
EL SALVADOR	SV
EQUATORIAL GUINEA	GQ
ERITREA	ER
ESTONIA	EE
ETHIOPIA	ET
FAEROE ISLANDS	FO
FALKLAND ISLANDS	FK
FIJI	FJ
FINLAND	FI
FRANCE	FR
FRENCH GUIANA	GF
FRENCH METROPOLITAN	FX
FRENCH POLYNESIA	PF
FRENCH SOUTHERN TERRITORY	TF
GABON	GA
GAMBIA	GM
GEORGIA	GE
GERMANY	DE
GHANA	GH
GIBRALTER	GI
GRECE	GR
GREENLAND	GL
GRENADA	GD

**TABLE 1.2 Visa country codes**

GUADALUPE	GP
GUAM	GU
GUATEMALA	GT
GUINEA	GN
GUINEA-BISSAU	GW
GUYANA	GY
HAITI	HT
HEARD & MCDONALDS ISLAND	HM
HONDURAS	HN
HONG KONG	HK
HUNGARY	HU
ICELAND	IS
INDIA	IN
INDONESIA	ID
IRAN	IR
IRAQ	IQ
IRELAND	IE
ISRAEL	IL
ITALY	IT
JAMAICA	JM
JAPAN	JP
JORDAN	JO
KAZAKHSTAN	KZ
KENYA	KE
KIRIBATI	KI
KOREA, REPUBLIC OF	KR
KUWAIT	KW
KYRGYZSTAN	KG
LAO PEOPLES DEMOCRATIC	LA
LATVIA	LV
LEBANON	LB

TABLE 1.2 Visa country codes

LESOTHO	LS
LIBERIA	LR
LIBYAN ARAB JAMAHIRIYA	LY
LIECHTNSTIEN	LI
LITHUANIA	LT
LUXEMBOURG	LU
MACAU	MO
MACEDONIA	MK
MADAGASCAR	MG
MALAWI	MW
MALAYSIA	MY
MALDIVES	MV
MALI	ML
MALTA	MT
MANACO	MC
MARSHALL ISLANDS	MH
MATINIQUE	MQ
MAURITANIA	MR
MAURITIUS	MU
MAYOTTE	YT
MEXICO	MX
MICRONESIA	FM
MOLDOVA	MD
MONGOLIA	MN
MONTSERRAT	MS
MOROCCO	MA
MOZAMBIQUE	MZ
MYANMAR	MM
NAMIBIA	NA
NAURU	NR
NEPAL	NP

TABLE 1.2 Visa country codes

NETHERLANDS	NL
NETHERLANDS ANTILLES	AN
NEW CALDONIA	NC
NEW ZEALAND	NZ
NICARAGUA	NI
NIGER	NE
NIGERIA	NG
NIUE	NU
NORFOLK ISLAND	NF
NORTHERN MARIANA ISLAND	MP
NORWAY	NO
OMAN	OM
PAKISTAN	PK
PALAU	PW
PANAMA	PA
PAPUA NEW GUINEA	PG
PARAGUAY	PY
PERU	PE
PHILIPPINES	PH
PITCAIRN ISLAND	PN
POLAND	PL
PORTUGAL	PT
PUERTO RICO	PR
QATAR	QA
REUNION	RE
ROMANIA	RO
RUSSIAN FEDERATION	RU
RWANDA	RW
SAMOA	WS
SAN MARINO	SM
SAN TOME AND PRINCE	ST

TABLE 1.2 Visa country codes

SAUDI ARABIA	SA
SENEGAL	SN
SEYCHELLES	SC
SIERRA LEONE	SL
SINGAPORE	SG
ST. HELENA	SH
ST. KITTS-NEVIS-ANGUILLA	KN
ST. LUCIA	LC
ST. PIERRE AND MIQUELON	PM
ST. VINCENT AND THE GRENADINES	VC
SUDAN	SD
SURINAM	SR
SVALBARD & JAN MAYEN IS.	SJ
SWAZILAND	SZ
SWEDEN	SE
SWITZERLAND	CH
SYRIAN ARAB REPUBLIC	SY
TAIWAN, PROVINCE OF CHINA	TW
TAJIKISTAN	TJ
TANZANIA, UNITED REPUBLIC	TZ
THAILAND	TH
TOGO	TG
TOKELAU	TK
TONGA	TO
TRINIDAD AND TOBAGO	TT
TUNISIA	TN
TURKEY	TR
TURKMENISTAN	TM
TURKS & CAICOS ISLANDS	TC
TUVALU	TV

**TABLE 1.2 Visa country codes**

U.S. MINOR OUTLYING ISL.	UM
UGANDA	UG
UKRAINIAN SSR	UA
UNITED ARAB EMIRATES	AE
UNITED KINGDOM	GB
UNITED STATES	US
URAGUAY	UY
UZBEKISTAN	UZ
VANUATU	VU
VATICAN CITY STATE	VA
VENEZUELA	VE
VIETNAM	VN
VIRGIN ISLANDS BRITISH	VG
VIRGIN ISLANDS US	VI
WALLIS AND FUTUNA IS	WF
WESTERN SAHARA	EH
YEMEN	YE
YUGOSLAVIA	YU
ZAIRE	ZR
ZAMBIA	ZM
ZIMBABWE	ZW

Units of Measure

TABLE 1.3 Units of measure

Acre (4840 yd ²)	ACR
Alcoholic strength by mass	ASM
Alcoholic strength by volume	ASV
Ampere*	AMP

TABLE 1.3 Units of measure

Ampere-hour (3,6 kC)*	AMH
Are (100 m ²)	ARE
Bar*	BAR
Barrel (petroleum) (158,987 dm ³)	BLL
Becquerel*	BQL
Billion EUR	BIL

TABLE 1.3 Units of measure

Billion US	MLD
Board foot	BFT
Brake horse power (245,7 watts)	BHP
British thermal unit (1,055 kilojoules)	BTU
Bushel (35,2391 dm3)	BUA
Bushel (36,36874 dm3)	BUI
Candela*	CDL
Carrying capacity in metric tonnes	CCT
Cental GB (45,359237 kg)	CNT
Center, metric (100 kg) (syn.: Hectokilogram)	DTN
Centigram*	CGM
Centilitre*	CLT
Centimetre*	CMT
Cord (3,63 m3)	WCD
Coulomb per kilogram*	CKG
Coulomb*	COU
Cubic centimetre*	CMQ
Cubic decimetre*	DMQ
Cubic foot	FTQ
Cubic inch	INQ
Cubic metre per hour*	MQH
Cubic metre per second*	MQS
Cubic metre*	MTQ
Cubic millimetre*	MMQ
Cubic yard	YDQ
Curie	CUR
Day*	DAY
Decade (ten years)	DEC
Decare	DAA
Decilitre*	DLT

TABLE 1.3 Units of measure

Decimetre*	DMT
Decitonne*	DTN
Degree Celsius	CEL
Degree Fahrenheit	FAH
Degree Kelvin: Kelvin	
Displacement tonnage	DPT
Dozen	DZN
Dozen packs	DZP
Dozen pairs	DZR
Dozen pieces	DCP
Dozen rolls	DRL
Drachm GB (3,887935 g)	DRM
Dram GB (1,771745 g)	DRI
Dram US (3,887935 g)	DRA
Dry Barrel (115,627 dm3)	BLD
Dry gallon (4,404884 dm3)	GLD
Dry pint (0,55061 dm3)	PTD
Dry quart (1,101221 dm3)	QTD
Farad*	FAR
Fluid ounce (28,413 cm3)	OZI
Fluid ounce (29,5735 cm3)	OZA
Foot (0,3048 m)	FOT
Gallon (4,546092 dm3)	GLI
Gigabecquerel*	GBQ
Gigawatt-hour (1 million kW/h)*	GWH
Gill (0,142065 dm3)	GII
Gill (11,8294 cm3)	GIA
Grain GB, US (64,798910 mg)	GRN
Gram of fissile isotopes	GFI
Gram*	GRM
Great gross (12 gross)	GGR

TABLE 1.3 Units of measure

Gross	GRO
Gross (register) ton	GRT
Half year (six months)	SAN
Hectare	HAR
Hectobar*	HBA
Hectogram*	HGM
Hectokilogram*	DTH
Hectolitre of pure alcohol	HPA
Hectolitre*	HLT
Hectometre*	HMT
Hertz*	HTZ
Hour*	HUR
Hundred	CEN
Hundred boxes	BHX
Hundred international units	HIU
Hundred leaves	CLF
Hundred packs	CNP
Hundredweight US (45,3592 kg)	CWA
Inch (25,4 mm)	INH
Joule*	JOU
Kelvin*	KEL
Kilobar*	KBA
Kilogram of caustic potash	KPH
Kilogram of caustic soda	KSH
Kilogram of named substance	KNS
Kilogram of nitrogen	KNI
Kilogram of phosphonic anhydride	KPP
Kilogram of phosphorus pentoxide	KPP
Kilogram of potassium hydroxide	KPH
Kilogram of potassium oxide	KPO

TABLE 1.3 Units of measure

Kilogram of sodium hydroxide	KSH
Kilogram of substance 90 percent dry	KSD
Kilogram per cubic meter*	KMQ
Kilogram per second*	KGS
Kilogram*	KGM
Kilohertz*	KHZ
Kilojoule*	KJO
Kilometre per hour*	KMH
Kilometre*	KMT
Kilopascal*	KPA
Kilogram of uranium	KUR
Kilotonne*	KTN
Kilovar	KVR
Kilovolt*	KVT
Kilovolt-ampere*	KVA
Kilowatt*	KWT
Kilowatt-hour*	KWH
Knot (1 nautical mile per hour)	KNT
Leaf	LEF
Liquid gallon (3,78541 dm3)	GLL
Liquid pint (0,473176 dm3)	PTL
Liquid quart (0,946353 dm3)	QTL
Litre (1 dm3)*	LTR
Litre of pure alcohol	LPA
Long ton GB, US (1,0160469 t)	LTN
(long) hundredweight GB (50,802345 kg)	CWI
Lumen*	LUM
Lux	LUX
Megahertz*	MHZ
Megalitre*	MAL

TABLE 1.3 Units of measure

Megametre*	MAM
Megapascal*	MPA
Megavolt-ampere (1000 KVA)*	MVA
Megawatt*	MAW
Megawatt-hour (100 kW/h)*	MWH
Metre per second squared*	MSK
Metre per second*	MTS
Metre*	MTR
Metric carat (200 mg=2,10-4 kg)	CTM
Metric ton (1000 kg)	TNE
Milliard	MLD
Millibar*	MBR
Millicurie	MCU
Milligram*	MGM
Millilitre*	MLT
Millimetre*	MMT
Million	MIO
Million cubic metres*	HMQ
Million international units	MIU
Minute*	MIN
Month	MON
Nautical mile (1852 m)	NMI
Net (register) ton	NTT
Newton*	NEW
Number	NMB
Number of articles	NAR
Number of bobbons	NBB
Number of cells*	NCL
Number of international units	NIU
Number of packs	NMP
Number of pairs	NMR

TABLE 1.3 Units of measure

Number of parcels	NPL
Number of parts	NPT
Number of rolls	NRL
Ohm*	OHM
Ounce GB, US (28,349523 g)	ONZ
Ounce GB, US (31,103448 g) (syn: Troy ounce)	APZ
Pascal*	PAL
Pennyweight GB, US (1555174 g)	DWT
Piece	PCE
Pint (0,568262 dm3)	PTI
Pound GB, US (0,45359237 kg)	LBR
Proof gallon	PGL
Quart (1,136523 dm3)	QTI
Quarter (of a year)	QAN
Quarter, GB (12,700586 kg)	QTR
Quintal, metric (100 kg)	DTN
Revolution per minute*	RPM
Revolution per second*	RPS
Score	SCO
scruple, GB (1,2955982 g)	SCR
Second*	SEC
Set	SET
Shipping ton	SHT
Short standard (7200 matches)	SST
Short ton GB, US (0,90718474 t)	STN
Siemens*	SIE
Square centimetre*	CMK
Square decimetre*	DMK
Square foot	FTK
Square inch	INK

TABLE 1.3 Units of measure

Square kilometre*	KMK
Square metre*	MTK
Square mile	MIK
Square millimetre*	MMK
Square yard	YDK
Standard	WSD
standard atmosphere (101325 Pa)	ATM
(statue) mile (1609,344 m)	SMI
Stone GB (6,350293 kg)	STI
Technical atmosphere (98066,5 Pa)	ATT
Ten days	DAD
Ten pairs	TPR
Thousand	MIL
Thousand ampere-hour*	TAH
Thousand board feet (2,36 m3)	MBF
Thousand cubic metres per day*	TQD
Thousand standard brick equivalent	MBE
Ton of steam per hour	TSH
Tonne (1000 kg)*	TNE
Tonne of substance 90 percent dry	TSD
Trillion EUR	TRL
Trillion US	BIL
Troy ounce	APZ
Troy pound, US (373,242 g)	LBT
Volt*	VLT
Watt*	WTT
Watt-hour*	WHR
Weber	WEB
Week	WEE
Yard (0,9144 m)	YRD
Year	ANN

FDMS South Currency Codes and Decimal Positions

TABLE I.4 FDMS South currency codes

Currency Name	Currency Code	Decimal Positions
Argentine Peso	32	2
Australian Dollar	36	2
Austrian Schilling	40	2
Belgian Franc	56	0
Canadian Dollar	124	2
Chilean Peso	152	2
Czech Koruna	203	2
Danish Krone	208	2
Dominican Peso	214	2
Markka	246	2
French Franc	250	2
Deutsche Mark	280	2
Drachma	300	0
Hong Kong Dollar	344	2
Indian Rupee	356	2
Irish Punt	372	2
Shekel	376	2
Italian Lira	380	0
Yen	392	0
Won	410	0
Luxembourg Franc	442	0
Mexican Nuevo Peso	484	2
Netherlands Guilder	528	2
New Zealand Dollar	554	2
Norwegian Frone	578	2
Philippine Peso	608	2

TABLE I.4 FDMS South currency codes

Currency Name	Currency Code	Decimal Positions
Portuguese Escudo	620	0
Rand	710	2
Spanish Peseta	724	0
Swedish Krona	752	2
Swiss Franc	756	2
Thailand Baht	764	2
Pound Sterling	826	2
Russian Ruble	810	2
U.S Dollar	840	2
Bolivar	862	2
New Taiwan Dollar	901	2
Euro	978	2
Polish New Zloty	985	2
Brazilian Real	986	2

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