

Level II and Level III Processing

REST API

Barclays



Developer Guide

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Initial release.

About This Guide

This section provides information about the REST API guide for Barclays.

Audience and Purpose

This guide is written for application developers who want to use the Cybersource REST API to integrate credit card processing with Level II or Level III data into their order management system.

Implementing the Cybersource credit card services requires software development skills. You must write code that uses the API request and reply fields to integrate the credit card services with Level II or Level III data into your existing order management system.

Conventions

The following special statements are used in this document:



Important: An *Important* statement contains information essential to successfully completing a task or learning a concept.

Related Documentation

Refer to the Technical Documentation Portal for more technical documentation:

<https://developer.cybersource.com/docs.html>

Customer Support

For support information about any service, visit the Support Center:

<http://www.cybersource.com/support>

Introduction to Level II and Level III Processing

For business to business customers, Level II and Level III processing can provide lower interchange rates in exchange for providing more information during a transaction.

Level II processing includes additional customer and tax information for the transaction. Level III processing includes line-item data for each transaction. Barclays does not support Level II processing only. You must include at least one line-item to process Level II transactions with Barclays. See [Supported Processors and Card Types: Level III \(on page 8\)](#) for lists of the supported card types for your processor.



Important: Barclays does not support discounting.

This document provides guidelines that indicate which fields are required to obtain the best interchange rates. These guidelines are based on industry information available at the time of publication. Cybersource recommends that you contact your acquirer for the most current information requirements, as these requirements can change at any time.

Level II Data

Level II cards, which are also called *Type II cards*, provide customers with additional information on their credit card statements about their purchases. Level II cards enable customers to easily track the amount of sales tax they pay and to reconcile transactions with a unique customer code. There are two categories of Level II cards:

- Business/corporate cards are given by businesses to employees for business-related expenses such as travel and entertainment or for corporate supplies and services.
- Purchase/procurement cards are used by businesses for expenses such as supplies and services. These cards are often used as replacements for purchase orders.

Each processor supports a different set of Level II fields. If your business is not in the United States, you must use additional fields.

Support for Level II processing is processor and card specific. See [Supported Processors and Card Types: Level II \(on page 8\)](#) for a list of the supported card types for your processor. .

Barclays does not support Level II processing only. You must include at least one Level III line-item to process Level II transactions with Barclays.

Supported Processors and Card Types: Level II

Barclays supports the following card types to process Level III transactions.

To process transactions with Level II data on Barclays, you must include at least one Level III line-item field in the request.

Processor	Level II Card Types Supported
Barclays	<ul style="list-style-type: none">• Mastercard• Visa

Level III Data

You can provide Level III data for purchase/procurement cards, which are used by businesses for expenses such as supplies and services. These cards are often used as replacements for purchase orders. The Level III data is forwarded to the company that made the purchase. It enables the company to manage its purchasing activities.

Check with your processor to determine whether you need to add Level III processing to your contract or account setup. Support for Level III processing is processor and card specific. See [Supported Processors and Card Types: Level III \(on page 8\)](#) for a list of the supported card types for your processor.

When you are ready to go live with Level III processing, contact Customer Support to have your account configured to process Level III data. If your account is not enabled and you try to send Level III transactions, you will receive an error for invalid data.



Important: Unless otherwise specified, Level III transactions must include Level II data.

Supported Processors and Card Types: Level III

Barclays supports the following card types to process Level III transactions.



Important: Barclays only supports Level III transactions on commercial cards. Transactions made with non-commercial cards and including Level III data will be rejected by Barclays. Cybersource recommends that you use BIN checking prior to authorization to ensure that only commercial cards are accepted. Cybersource does not perform a BIN check to verify that the card is a commercial card.

Processor	Level III Card Types Supported
Barclays	<ul style="list-style-type: none">• Mastercard• Visa

Level III Transaction Details

Barclays

To qualify for Level III interchange rates, you must include at least one item in your request. The maximum number of items you can include in a request is credit card specific:

- Mastercard: 99 items
- Visa: 99 items

Cybersource Level II and Level III Data Processing

Cybersource does not store Level II and Level III data. Rather, it functions as a pass-through service for the data. Thus, if you request multiple partial captures or credits for an order, you must include the Level II and Level III data in each request.

During data processing, validation is performed in order to minimize interference with business policies between the merchant and customers. The following validation calculations are performed for each line item for invoice data:

- **orderInformation.lineItems[].totalAmount** must equal **orderInformation.lineItems[].unitPrice** multiplied by **orderInformation.lineItems[].quantity**
- **orderInformation.lineItems[].taxAmount** must equal **orderInformation.lineItems[].taxRate** multiplied by **orderInformation.lineItems[].unitPrice** multiplied by **orderInformation.lineItems[].quantity**.

The following validation calculations are performed for transaction totals for invoice data:

- **orderInformation.amountDetails.totalAmount** must equal the sum of **orderInformation.lineItems[].totalAmount** and **orderInformation.lineItems[].taxAmount**
- **orderInformation.amountDetails.taxAmount** must equal the sum of **orderInformation.lineItems[].taxAmount**

If Level III transactions produce batching errors while data is transmitted to the processor, the Level III processing field is disabled (value set to **N**) and the merchant is sent a message showing the change in status. When this happens, the request is not rejected, and the disabled processing field is included in the status message.

- For credits and captures, the disabled field is **orderInformation.invoiceDetails.level3TransmissionStatus**

For example, when a capture transaction produces batching errors, the **orderInformation.invoiceDetails.level3TransmissionStatus** field is set to **N**.

Cybersource recommends that you include the total order amount in the authorization request, when authorizing Level III transactions. Doing so ensures that your total order amount is used and that the capture or credit request total amount matches the original authorization total amount.



Important: If you omit required Level II and Level III fields from a request, the transaction does not fail. It is processed successfully. This could result in higher fees or penalties assessed against your account. Contact your processor to ensure that you understand your processor's specific requirements for Level II and Level III transactions.

Relaxed Requirements for Address Data and Expiration Date

To enable relaxed requirements for address data and expiration dates, contact customer support. For details about relaxed requirements, see [Relaxed Requirements for Address Data and Expiration Dates](#).

Using Decimals and Strings

Cybersource uses decimal points in all amount and tax rate fields; Cybersource does not use implied decimal points. For example, if the amount of the product being purchased is 29.95, set that field to 29.95.

Barclays does not support fractional quantities. You must use whole numbers only. For tax rates used with Level III transactions, you must include a decimal point in the value. For example, if a tax rate is 1%, you should set that field to 1.00.

For many of the fields described in this document, Visa and Mastercard permit different lengths for alphanumeric (string) input. Cybersource accepts any length you provide. If the value you provide is longer than the payment card company permits, Cybersource truncates the value, keeping the left-most portion of the value. If the value you provide is shorter than the payment card company requires, Cybersource pads the field before sending it to the processor.

Barclays

This section shows you how to process transactions with Level III data.

Captures with Level III Data

This section shows you how to capture an authorized transaction with Level III data.

Endpoint

Production: `POST https://api.cybersource.com/pts/v2/payments/{id}/captures`

Test: `POST https://apitest.cybersource.com/pts/v2/payments/{id}/captures`

The `{id}` is the transaction ID returned in the authorization response.

Required Fields for Capturing a Payment with Level III Data Using the REST API

These fields are required in a capture request with Level III data:

buyerInformation.vatRegistrationNumber

merchantInformation.merchantDescriptor.address1

merchantInformation.merchantDescriptor.country

merchantInformation.merchantDescriptor.locality

merchantInformation.merchantDescriptor.name

merchantInformation.merchantDescriptor.postalCode

orderInformation.amountDetails.currency

Barclays supports British pound sterling currency only. Set to `GBP`.

orderInformation.amountDetails.taxAmount

orderInformation.amountDetails.totalAmount

orderInformation.billTo.address1

orderInformation.billTo.company

orderInformation.billTo.company.name

orderInformation.billTo.country

orderInformation.billTo.email

orderInformation.billTo.firstName

orderInformation.billTo.lastName

orderInformation.billTo.locality

orderInformation.invoiceDetails.invoiceDate

orderInformation.invoiceDetails.supplierOrderReference

orderInformation.lineItems[].productName

orderInformation.lineItems[].quantity

orderInformation.lineItems[].taxAmount

orderInformation.lineItems[].taxRate

orderInformation.lineItems[].taxTypeCode

Set field to S, AA, BB, CC, DD, E or Z.

orderInformation.lineItems[].totalAmount

orderInformation.lineItems[].unitOfMeasure

orderInformation.lineItems[].unitPrice

orderInformation.shipTo.address1

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.company

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.firstName

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.lastName

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.postalCode

Required if any **orderInformation.shipTo** fields are included.

paymentInformation.card.expirationMonth

paymentInformation.card.expirationYear

paymentInformation.card.number

processingInformation.purchaseLevel

Set field to 3.

Related information

[API Field Reference for the REST API](#)

Optional Fields for Capturing a Payment with Level III Data Using the REST API

These fields are optional in a request for a capture with Level III data:

buyerInformation.merchantCustomerId

merchantInformation.merchantDescriptor.contact

merchantInformation.merchantDescriptor.county

merchantInformation.vatRegistrationNumber

orderInformation.billTo.address2

orderInformation.billTo.address3

orderInformation.billTo.address4

orderInformation.billTo.postalCode

orderInformation.invoiceDetails.costCenter

orderInformation.invoiceDetails.purchaseOrderDate

orderInformation.invoiceDetails.purchaseOrderNumber

orderInformation.invoiceDetails.referenceDataNumber

orderInformation.lineItems.productSku

orderInformation.lineItems[].commodityCode

orderInformation.shipTo.address1

orderInformation.shipTo.address2

orderInformation.shipTo.address3

orderInformation.shipTo.address4

orderInformation.shipTo.country
orderInformation.shipTo.administrativeArea
orderInformation.shipTo.firstName
orderInformation.shipTo.lastName
orderInformation.shipTo.locality
orderInformation.shipTo.postalCode
paymentInformation.card.type
paymentInformation.method
processingInformation.commerceIndicator

Related information

[API Field Reference for the REST API](#)

REST Example: Capturing a Payment with Level III Data

Endpoint: `POST https://api.cybersource.com/pts/v2/payments/{id}/captures`

The `{id}` is the transaction ID returned in the authorization response.

Request

```
{
  "clientReferenceInformation": {
    "code": "Capture Invoice"
  },
  "processingInformation": {
    "purchaseLevel": "3"
  },
  "paymentInformation": {
    "card": {
      "number": "4715320629000001",
      "expirationMonth": "03",
      "expirationYear": "2025"
    }
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "112.00",
```

```

        "currency": "GBP",
        "taxAmount": "18.67"
    },
    "billTo": {
        "firstName": "Buyer",
        "lastName": "OfGoods",
        "company": {
            "name": "Acme Inc"
        },
        "address1": "1 High Street",
        "locality": "Belfast",
        "postalCode": "BT1 2AB",
        "country": "UK",
        "email": "a@b.com"
    },
    "lineItems": [
        {
            "productName": "Widgets",
            "productSku": "WID1",
            "quantity": "7",
            "unitPrice": "10.00",
            "unitOfMeasure": "EA",
            "totalAmount": "70.00",
            "taxAmount": "14.00",
            "taxRate": "20.00",
            "taxTypeCode": "S"
        },
        {
            "productName": "Freight",
            "productSku": "ABC123",
            "quantity": "1",
            "unitPrice": "23.33",
            "unitOfMeasure": "EA",
            "totalAmount": "23.33",
            "taxAmount": "4.67",
            "taxRate": "20.00",
            "taxTypeCode": "S"
        }
    ],
    "invoiceDetails": {
        "purchaseOrderNumber": "P021122",
        "purchaseOrderDate": "20220601",
        "costCenter": "WE21122",
        "invoiceDate": "20220601000000",
        "supplierOrderReference": "ACME1234"
    },
    "buyerInformation": {
        "merchantCustomerId": "TESTBBREFACD21122",

```

```
    "vatRegistrationNumber": "GB123421100"
  },
  "merchantInformation": {
    "merchantDescriptor": {
      "name": "Widgets Inc",
      "contact": "02890491491",
      "address1": "1 Main Street",
      "locality": "Belfast",
      "country": "UK",
      "postalCode": "BT1 2AB"
    },
    "vatRegistrationNumber": "GB987654321"
  }
}
```

Credits with Level III Data

This topic shows you how to process a credit with Level III data.

Exchange items must be processed in a credit request that is separate from the original sale invoice.

Endpoint

Production: `POST https://api.cybersource.com/pts/v2/credits/`

Test: `POST https://apitest.cybersource.com/pts/v2/credits/`

Required Fields for Processing a Credit with Level III Data Using the REST API

These fields are required in a credit request with Level III data:

buyerInformation.vatRegistrationNumber

merchantInformation.merchantDescriptor.address1

merchantInformation.merchantDescriptor.country

Barclays supports UK-based merchants only. The country code must be set to `GB`.

merchantInformation.merchantDescriptor.locality

merchantInformation.merchantDescriptor.name

merchantInformation.merchantDescriptor.postalCode

orderInformation.amountDetails.currency

Barclays supports British pound sterling currency only. Set to `GBP`.

orderInformation.amountDetails.taxAmount

orderInformation.amountDetails.totalAmount

orderInformation.billTo.address1

orderInformation.billTo.administrationArea

orderInformation.billTo.company

orderInformation.billTo.company.name

orderInformation.billTo.country

orderInformation.billTo.email

orderInformation.billTo.firstName

orderInformation.billTo.lastName

orderInformation.billTo.locality

orderInformation.billTo.postalCode

orderInformation.invoiceDetails.invoiceDate

orderInformation.invoiceDetails.supplierOrderReference

orderInformation.lineItems[].productName

orderInformation.lineItems[].quantity

orderInformation.lineItems[].taxAmount

orderInformation.lineItems[].taxRate

orderInformation.lineItems[].taxTypeCode

Set field to [S](#), [AA](#), [BB](#), [CC](#), [DD](#), [E](#) or [Z](#).

orderInformation.lineItems[].totalAmount

orderInformation.lineItems[].unitOfMeasure

orderInformation.lineItems[].unitPrice

orderInformation.shipTo.address1

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.company

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.firstName

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.lastName

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.postalCode

Required if any **orderInformation.shipTo** fields are included.

paymentInformation.card.expirationMonth

paymentInformation.card.expirationYear

paymentInformation.card.number

processingInformation.purchaseLevel

Related information

[API Field Reference for the REST API](#)

Optional Fields for Processing a Credit with Level III Data Using the REST API

These fields are optional in a credit request with Level III data:

buyerInformation.merchantCustomerId

merchantInformation.merchantDescriptor.contact

merchantInformation.merchantDescriptor.county

merchantInformation.vatRegistrationNumber

orderInformation.billTo.address2

orderInformation.billTo.address3

orderInformation.billTo.address4

orderInformation.invoiceDetails.costCenter

orderInformation.invoiceDetails.purchaseOrderDate

orderInformation.invoiceDetails.purchaseOrderNumber

orderInformation.invoiceDetails.referenceDataNumber

orderInformation.lineItems.productSku

orderInformation.lineItems[].commodityCode

orderInformation.shipTo.address1

orderInformation.shipTo.address2

orderInformation.shipTo.address3

orderInformation.shipTo.address4

orderInformation.shipTo.country

orderInformation.shipTo.administrativeArea

orderInformation.shipTo.firstName

orderInformation.shipTo.lastName

orderInformation.shipTo.locality

orderInformation.shipTo.postalCode

paymentInformation.card.type

paymentInformation.method

processingInformation.commerceIndicator

Related information

[API Field Reference for the REST API](#)

REST Example: Processing a Credit with Level III Data

Endpoint: POST <https://api.cybersource.com/pts/v2/credits/>

Request

```
{
  "clientReferenceInformation": {
    "code": "Standalone Credit"
  },
  "processingInformation": {
    "purchaseLevel": "3"
  },
  "paymentInformation": {
    "card": {
      "number": "4715320629000001",
      "expirationMonth": "03",
      "expirationYear": "2025"
    }
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "112.00",
      "currency": "GBP",
      "taxAmount": "18.67"
    },
    "billTo": {
      "firstName": "Buyer",
      "lastName": "OfGoods",
      "company": {
        "name": "Acme Inc"
      }
    }
  },
}
```

```

    "address1": "1 High Street",
    "locality": "Belfast",
    "postalCode": "BT1 2AB",
    "country": "UK",
    "email": "a@b.com"
  },
  "lineItems": [
    {
      "productName": "Widgets",
      "productSku": "WID1",
      "quantity": "7",
      "unitPrice": "10.00",
      "unitOfMeasure": "EA",
      "totalAmount": "70.00",
      "taxAmount": "14.00",
      "taxRate": "20.00",
      "taxTypeCode": "S"
    },
    {
      "productName": "Freight",
      "productSku": "ABC123",
      "quantity": "1",
      "unitPrice": "23.33",
      "unitOfMeasure": "EA",
      "totalAmount": "23.33",
      "taxAmount": "4.67",
      "taxRate": "20.00",
      "taxTypeCode": "S"
    }
  ],
  "invoiceDetails": {
    "purchaseOrderNumber": "PO21122",
    "purchaseOrderDate": "20220601",
    "costCenter": "WE21122",
    "invoiceDate": "20220601000000",
    "supplierOrderReference": "ACME1234"
  },
  "buyerInformation": {
    "merchantCustomerId": "TESTBBREFACD21122",
    "vatRegistrationNumber": "GB123421100"
  },
  "merchantInformation": {
    "merchantDescriptor": {
      "name": "Widgets Inc",
      "contact": "02890491491",
      "address1": "1 Main Street",
      "locality": "Belfast",
      "country": "UK",

```

```
    "postalCode": "BT1 2AB"  
  },  
  "vatRegistrationNumber": "GB987654321"  
}  
}
```

Successful Response

```
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/credits/6799465991706322704953/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/credits/6799465991706322704953"
    }
  },
  "clientReferenceInformation": {
    "code": "Standalone Credit"
  },
  "creditAmountDetails": {
    "currency": "GBP",
    "creditAmount": "112.00"
  },
  "id": "6799465991706322704953",
  "orderInformation": {
    "invoiceDetails": {
      "level3TransmissionStatus": "Y"
    },
    "amountDetails": {
      "currency": "GBP"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "tokenizedCard": {
      "type": "001"
    },
    "card": {
      "type": "001"
    }
  },
  "processorInformation": {
    "approvalCode": "888888",
    "responseCode": "100"
  },
  "reconciliationId": "70359987ZFKZI54N",
}
```

```
"status": "PENDING",  
"submitTimeUtc": "2023-03-27T19:49:59Z"  
}
```


Sales with Level III Data

This section shows you how to process a sale transaction with Level III data.

A sale transaction combines an authorization and a capture into a single transaction.

Endpoint

Production: `POST https://api.cybersource.com/pts/v2/payments`

Test: `POST https://apitest.cybersource.com/pts/v2/payments`

Required Fields for Processing a Sale with Level III Data Using the REST API

The following fields are required in a request for a sale with Level III data:

buyerInformation.vatRegistrationNumber

clientReferenceInformation.code

merchantInformation.merchantDescriptor.address1

merchantInformation.merchantDescriptor.country

Barclays supports UK-based merchants only. The country code must be set to `GB`.

merchantInformation.merchantDescriptor.locality

merchantInformation.merchantDescriptor.name

merchantInformation.merchantDescriptor.postalCode

orderInformation.amountDetails.currency

Barclays supports British pound sterling currency only. Set to `GBP`.

orderInformation.amountDetails.taxAmount

orderInformation.amountDetails.totalAmount

orderInformation.billTo.address1

orderInformation.billTo.administrativeArea

orderInformation.billTo.company

orderInformation.billTo.company.name

orderInformation.billTo.country

orderInformation.billTo.email

orderInformation.billTo.firstName

orderInformation.billTo.lastName

orderInformation.billTo.locality

orderInformation.billTo.postalCode

orderInformation.invoiceDetails.invoiceDate

orderInformation.invoiceDetails.supplierOrderReference

orderInformation.lineItems[].productName

orderInformation.lineItems[].quantity

orderInformation.lineItems[].taxAmount

orderInformation.lineItems[].taxRate

orderInformation.lineItems[].taxTypeCode

Set field to **S**, **AA**, **BB**, **CC**, **DD**, **E** or **Z**.

orderInformation.lineItems[].totalAmount

orderInformation.lineItems[].unitOfMeasure

orderInformation.lineItems[].unitPrice

orderInformation.shipTo.address1

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.company

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.firstName

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.lastName

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.postalCode

Required if any **orderInformation.shipTo** fields are included.

paymentInformation.card.expirationMonth

paymentInformation.card.expirationYear

paymentInformation.card.number

paymentInformation.card.type

processingInformation.capture

Set field to `true`.

processingInformation.purchaseLevel

Set field to `3`.



Important: When using relaxed requirements for address data and the expiration date, not all fields in this list are required. It is your responsibility to determine whether your account is enabled to use this feature and which fields are required. For details about relaxed requirements, see the support article [Relaxed Requirements for Address Data and Expiration Date in Credit Card Transactions](#).

Related information

[API Field Reference for the REST API](#)

Optional Fields for Processing a Sale with Level III Data Using the REST API

These fields are optional in a sale request with Level III data:

buyerInformation.merchantCustomerId

merchantInformation.merchantDescriptor.contact

merchantInformation.merchantDescriptor.county

merchantInformation.vatRegistrationNumber

orderInformation.billTo.address2

orderInformation.billTo.address3

orderInformation.billTo.address4

orderInformation.invoiceDetails.costCenter

orderInformation.invoiceDetails.purchaseOrderDate

orderInformation.invoiceDetails.purchaseOrderNumber

orderInformation.invoiceDetails.referenceDataNumber

orderInformation.lineItems.productSku

orderInformation.lineItems[].commodityCode

orderInformation.shipTo.address1
orderInformation.shipTo.address2
orderInformation.shipTo.address3
orderInformation.shipTo.address4
orderInformation.shipTo.country
orderInformation.shipTo.administrativeArea
orderInformation.shipTo.firstName
orderInformation.shipTo.lastName
orderInformation.shipTo.locality
orderInformation.shipTo.postalCode
paymentInformation.card.type
paymentInformation.method

Related information

[API Field Reference for the REST API](#)

REST Example: Processing a Sale with Level III Data

This example shows the standard invoice for sale of taxable goods with Level III data.

Endpoint: **POST** `https://api.cybersource.com/pts/v2/payments`

Request

```
{
  "clientReferenceInformation": {
    "code": "Simple Sale Invoice"
  },
  "processingInformation": {
    "capture": true,
    "purchaseLevel": "3"
  },
  "paymentInformation": {
    "card": {
      "number": "4715320629000001",
```

```

    "expirationMonth": "03",
    "expirationYear": "2025"
  }
},
"orderInformation": {
  "amountDetails": {
    "totalAmount": "112.00",
    "currency": "GBP",
    "taxAmount": "18.67"
  },
  "billTo": {
    "firstName": "Buyer",
    "lastName": "OfGoods",
    "company": {
      "name": "Acme Inc"
    },
    "address1": "1 High Street",
    "locality": "Belfast",
    "postalCode": "BT1 2AB",
    "country": "UK",
    "email": "a@b.com"
  },
  "lineItems": [
    {
      "productName": "Widgets",
      "productSku": "WID1",
      "quantity": "7",
      "unitPrice": "10.00",
      "unitOfMeasure": "EA",
      "totalAmount": "70.00",
      "taxAmount": "14.00",
      "taxRate": "20.00",
      "taxTypeCode": "S"
    },
    {
      "productName": "Freight",
      "productSku": "ABC123",
      "quantity": "1",
      "unitPrice": "23.33",
      "unitOfMeasure": "EA",
      "totalAmount": "23.33",
      "taxAmount": "4.67",
      "taxRate": "20.00",
      "taxTypeCode": "S"
    }
  ],
  "invoiceDetails": {
    "purchaseOrderNumber": "P021122",
    "purchaseOrderDate": "20220601",

```

```
    "costCenter": "WE21122",
    "invoiceDate": "20220601000000",
    "supplierOrderReference": "ACME1234"
  },
  "buyerInformation": {
    "merchantCustomerId": "TESTBBREFACD21122",
    "vatRegistrationNumber": "GB123421100"
  },
  "merchantInformation": {
    "merchantDescriptor": {
      "name": "Widgets Inc",
      "contact": "02890491491",
      "address1": "1 Main Street",
      "locality": "Belfast",
      "country": "UK",
      "postalCode": "BT1 2AB"
    },
    "vatRegistrationNumber": "GB987654321"
  }
}
```


Successful Response

```
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/payments/6799459940956367204951/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/payments/6799459940956367204951"
    }
  },
  "clientReferenceInformation": {
    "code": "Simple Sale Invoice"
  },
  "id": "6799459940956367204951",
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "112.00",
      "authorizedAmount": "112.00",
      "currency": "GBP"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "tokenizedCard": {
      "type": "001"
    },
    "card": {
      "type": "001"
    }
  },
  "pointOfSaleInformation": {
    "terminalId": "123456"
  },
  "processorInformation": {
    "approvalCode": "888888",
    "networkTransactionId": "123456789619999",
    "transactionId": "123456789619999",
    "responseCode": "100",
    "avs": {
      "code": "X",
      "codeRaw": "I1"
    }
  }
}
```

```

    },
    "reconciliationId": "703866398FM22CBS",
    "status": "AUTHORIZED",
    "submitTimeUtc": "2023-03-27T19:39:54Z"
  }
}

```

REST Example: Processing a Cross-Border Sale with Level III Data

This example shows a cross-border sale with a buyer not based in the United Kingdom (UK). Only UK-based merchants are supported on Barclays, so the seller must always be based in the UK.

Endpoint: `POST https://api.cybersource.com/pts/v2/payments`

Request

```

{
  "clientReferenceInformation": {
    "code": "Simple Cross Border Sale"
  },
  "processingInformation": {
    "capture": true,
    "purchaseLevel": "3"
  },
  "paymentInformation": {
    "card": {
      "number": "4715320629000001",
      "expirationMonth": "03",
      "expirationYear": "2025"
    },
    "method": "P"
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "112.00",
      "currency": "GBP",
      "taxAmount": "18.67"
    },
    "billTo": {
      "firstName": "OverseasBuyer",
      "lastName": "OfGoods",
      "company": {
        "name": "Acme France Inc"
      },
      "address1": "1 Pl. Charles de Gaulle",
      "locality": "Paris",

```

```

    "postalCode": "75008",
    "country": "FR",
    "email": "a@b.com"
  },
  "lineItems": [
    {
      "productName": "Widgets",
      "productSku": "WID1",
      "quantity": "7",
      "unitPrice": "10.00",
      "unitOfMeasure": "EA",
      "totalAmount": "70.00",
      "taxAmount": "14.00",
      "taxRate": "20.00",
      "taxTypeCode": "S"
    },
    {
      "productName": "Freight",
      "productSku": "ABC123",
      "quantity": "1",
      "unitPrice": "23.33",
      "unitOfMeasure": "EA",
      "totalAmount": "23.33",
      "taxAmount": "4.67",
      "taxRate": "20.00",
      "taxTypeCode": "S"
    }
  ],
  "invoiceDetails": {
    "purchaseOrderNumber": "P021122",
    "purchaseOrderDate": "20220601",
    "costCenter": "WE21122",
    "invoiceDate": "20220601000000",
    "supplierOrderReference": "ACME1234"
  },
  "buyerInformation": {
    "merchantCustomerId": "TESTBBREFACD21106",
    "vatRegistrationNumber": "FR123421100"
  },
  "merchantInformation": {
    "merchantDescriptor": {
      "name": "Widgets Inc",
      "contact": "02890491491",
      "address1": "1 Main Street",
      "locality": "Belfast",
      "country": "UK",
      "postalCode": "BT1 2AB"
    }
  },

```

```
"vatRegistrationNumber": "GB987654321"  
}  
}
```

Successful Response

```
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/payments/6796051688876181303954/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/payments/6796051688876181303954"
    }
  },
  "clientReferenceInformation": {
    "code": "Simple Cross Border Sale"
  },
  "id": "6796051688876181303954",
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "112.00",
      "authorizedAmount": "112.00",
      "currency": "GBP"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "tokenizedCard": {
      "type": "001"
    },
    "card": {
      "type": "001"
    }
  },
  "pointOfSaleInformation": {
    "terminalId": "123456"
  },
  "processorInformation": {
    "approvalCode": "888888",
    "networkTransactionId": "123456789619999",
    "transactionId": "123456789619999",
    "responseCode": "100",
    "avs": {
      "code": "1"
    }
  }
},
```

```
"reconciliationId": "64152045IFJYCCTN",
"status": "AUTHORIZED",
"submitTimeUtc": "2023-03-23T20:59:29Z"
}
```

REST Example: Processing a Tax-Only Sale with Level III Data

Tax-only processing requires two transactions: a sale and a refund. This example shows a tax-only sale. See [REST Example: Processing a Tax-Only Refund with Level III Data \(on page 51\)](#) for an example of a tax-only refund.

Endpoint: POST <https://api.cybersource.com/pts/v2/payments>

Request

```
{
  "clientReferenceInformation": {
    "code": "Tax Only Sale Invoice"
  },
  "processingInformation": {
    "capture": true,
    "purchaseLevel": "3"
  },
  "paymentInformation": {
    "card": {
      "number": "4715320629000001",
      "expirationMonth": "03",
      "expirationYear": "2025"
    }
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "87.44",
      "currency": "GBP",
      "taxAmount": "14.57"
    },
    "billTo": {
      "firstName": "Buyer",
      "lastName": "OfGoods",
      "company": {
        "name": "Acme Inc"
      },
      "address1": "1 High Street",
      "locality": "Belfast",
      "postalCode": "BT1 2AB",

```

```

    "country": "UK",
    "email": "a@b.com"
  },
  "lineItems": [
    {
      "productName": "Goods",
      "productSku": "ABC123",
      "quantity": "1",
      "unitPrice": "72.87",
      "unitOfMeasure": "EA",
      "totalAmount": "72.87",
      "taxAmount": "14.57",
      "taxRate": "20.00",
      "taxTypeCode": "S"
    }
  ],
  "invoiceDetails": {
    "purchaseOrderNumber": "PO21122",
    "purchaseOrderDate": "20220601",
    "costCenter": "WE21122",
    "invoiceDate": "20220601000000",
    "supplierOrderReference": "ACME1234"
  },
  "buyerInformation": {
    "merchantCustomerId": "TESTBBREFACD21122",
    "vatRegistrationNumber": "GB123421100"
  },
  "merchantInformation": {
    "merchantDescriptor": {
      "name": "Widgets Inc",
      "contact": "02890491491",
      "address1": "1 Main Street",
      "locality": "Belfast",
      "country": "UK",
      "postalCode": "BT1 2AB"
    },
    "vatRegistrationNumber": "GB987654321"
  }
}

```

Successful Response

```
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/payments/6796055770126475803955/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/payments/6796055770126475803955"
    }
  },
  "clientReferenceInformation": {
    "code": "Tax Only Sale Invoice"
  },
  "id": "6796055770126475803955",
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "87.44",
      "authorizedAmount": "87.44",
      "currency": "GBP"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "tokenizedCard": {
      "type": "001"
    },
    "card": {
      "type": "001"
    }
  },
  "pointOfSaleInformation": {
    "terminalId": "123456"
  },
  "processorInformation": {
    "approvalCode": "888888",
    "networkTransactionId": "123456789619999",
    "transactionId": "123456789619999",
    "responseCode": "100",
    "avs": {
      "code": "X",
      "codeRaw": "I1"
    }
  }
}
```



```
},
"reconciliationId": "64151905JFJYC5DS",
"status": "AUTHORIZED",
"submitTimeUtc": "2023-03-23T21:06:17Z"
}
```

REST Example: Processing a Sale with Multiple Tax Rates with Level III Data

This example shows a sale with multiple tax rates.

Endpoint: `POST https://api.cybersource.com/pts/v2/payments`

Request

```
{
  "clientReferenceInformation": {
    "code": "Simple Invoice"
  },
  "processingInformation": {
    "capture": true,
    "purchaseLevel": "3"
  },
  "paymentInformation": {
    "card": {
      "number": "4715320629000001",
      "expirationMonth": "03",
      "expirationYear": "2025"
    }
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "180.88",
      "currency": "GBP",
      "taxAmount": "17.24"
    },
    "billTo": {
      "firstName": "Buyer",
      "lastName": "OfGoods",
      "company": {
        "name": "Acme Inc"
      },
      "address1": "1 High Street",
      "locality": "Belfast",
      "postalCode": "BT1 2AB",

```

```

    "country": "UK",
    "email": "a@b.com"
  },
  "lineItems": [
    {
      "productName": "Widgets",
      "productSku": "WID1",
      "quantity": "3",
      "unitPrice": "23.23",
      "unitOfMeasure": "EA",
      "totalAmount": "69.69",
      "taxAmount": "13.94",
      "taxRate": "20.00",
      "taxTypeCode": "S"
    },
    {
      "productName": "Children's Clothes",
      "productSku": "ABC123",
      "quantity": "6",
      "unitPrice": "10.99",
      "unitOfMeasure": "EA",
      "totalAmount": "65.94",
      "taxAmount": "3.30",
      "taxRate": "5.00",
      "taxTypeCode": "AA"
    },
    {
      "productName": "Spanner",
      "productSku": "XYZ123",
      "quantity": "5",
      "unitPrice": "4.99",
      "unitOfMeasure": "EA",
      "totalAmount": "24.95",
      "taxAmount": "0.00",
      "taxRate": "0.00",
      "taxTypeCode": "E"
    },
    {
      "productName": "Wrech",
      "productSku": "DEF321",
      "quantity": "3",
      "unitPrice": "1.02",
      "unitOfMeasure": "EA",
      "totalAmount": "3.06",
      "taxAmount": "0.00",
      "taxRate": "0.00",
      "taxTypeCode": "Z"
    }
  ]
}

```

```

        "productName": "Freestuff",
        "productSku": "GHI456",
        "quantity": "4",
        "unitPrice": "0.00",
        "unitOfMeasure": "FOC",
        "totalAmount": "0.00",
        "taxAmount": "0.00",
        "taxRate": "0.00",
        "taxTypeCode": "E"
    }
},
    "invoiceDetails": {
        "purchaseOrderNumber": "PO21122",
        "purchaseOrderDate": "20220601",
        "costCenter": "WE21122",
        "invoiceDate": "20220601000000",
        "supplierOrderReference": "ACME1234"
    }
},
    "buyerInformation": {
        "merchantCustomerId": "TESTBBREFACD21122",
        "vatRegistrationNumber": "GB123421100"
    },
    "merchantInformation": {
        "merchantDescriptor": {
            "name": "Widgets Inc",
            "contact": "02890491491",
            "address1": "1 Main Street",
            "locality": "Belfast",
            "country": "UK",
            "postalCode": "BT1 2AB"
        },
        "vatRegistrationNumber": "GB987654321"
    }
}

```

Successful Response

```
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/payments/6796055429906230103954/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/payments/6796055429906230103954"
    }
  },
  "clientReferenceInformation": {
    "code": "Simple Invoice"
  },
  "id": "6796055429906230103954",
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "180.88",
      "authorizedAmount": "180.88",
      "currency": "GBP"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "tokenizedCard": {
      "type": "001"
    },
    "card": {
      "type": "001"
    }
  },
  "pointOfSaleInformation": {
    "terminalId": "123456"
  },
  "processorInformation": {
    "approvalCode": "888888",
    "networkTransactionId": "123456789619999",
    "transactionId": "123456789619999",
    "responseCode": "100",
    "avs": {
      "code": "X",
      "codeRaw": "I1"
    }
  }
}
```

```
},  
  "reconciliationId": "64152053IFJYCCU7",  
  "status": "AUTHORIZED",  
  "submitTimeUtc": "2023-03-23T21:05:43Z"  
}
```

Refunds with Level III Data

This section shows you how to process a refund with Level III data. You must request a refund within 60 days of the authorization.

Endpoint

Production: `POST https://api.cybersource.com/pts/v2/payments/{id}/refunds`

Test: `POST https://apitest.cybersource.com/pts/v2/payments/{id}/refunds`

The `{id}` is the transaction ID returned in the capture or sale response.

Required Fields for Processing a Refund with Level III Data

buyerInformation.vatRegistrationNumber

merchantInformation.merchantDescriptor.address1

merchantInformation.merchantDescriptor.country

Barclays supports UK-based merchants only. The country code must be set to `GB`.

merchantInformation.merchantDescriptor.locality

merchantInformation.merchantDescriptor.name

merchantInformation.merchantDescriptor.postalCode

orderInformation.amountDetails.taxAmount

orderInformation.billTo.address1

orderInformation.billTo.company

orderInformation.billTo.company.name

orderInformation.billTo.country

orderInformation.billTo.email

orderInformation.billTo.firstName

orderInformation.billTo.lastName

orderInformation.billTo.locality

orderInformation.invoiceDetails.invoiceDate

orderInformation.invoiceDetails.supplierOrderReference

orderInformation.lineItems[].productName

orderInformation.lineItems[].quantity

orderInformation.lineItems[].taxAmount

orderInformation.lineItems[].taxRate

orderInformation.lineItems[].taxTypeCode

orderInformation.lineItems[].totalAmount

orderInformation.lineItems[].unitOfMeasure

orderInformation.lineItems[].unitPrice

orderInformation.shipTo.address1

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.company

orderInformation.shipTo.company

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.firstName

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.lastName

Required if any **orderInformation.shipTo** fields are included.

orderInformation.shipTo.postalCode

Required if any **orderInformation.shipTo** fields are included.

paymentInformation.card.expirationMonth

paymentInformation.card.expirationYear

paymentInformation.card.number

processingInformation.purchaseLevel

Set field to 3.

Related information

[API Field Reference for the REST API](#)

Optional Fields for Processing a Refund with Level III Data

buyerInformation.merchantCustomerId

merchantInformation.merchantDescriptor.contact

merchantInformation.merchantDescriptor.county

merchantInformation.vatRegistrationNumber

orderInformation.billTo.address2

orderInformation.billTo.address3

orderInformation.billTo.address4

orderInformation.invoiceDetails.costCenter

orderInformation.invoiceDetails.purchaseOrderDate

orderInformation.invoiceDetails.purchaseOrderNumber

orderInformation.invoiceDetails.referenceDataNumber

orderInformation.lineItems.productSku

orderInformation.lineItems[].commodityCode

orderInformation.shipTo.address1

orderInformation.shipTo.address2

orderInformation.shipTo.address3

orderInformation.shipTo.address4

orderInformation.shipTo.country

orderInformation.shipTo.administrativeArea

orderInformation.shipTo.firstName

orderInformation.shipTo.lastName

orderInformation.shipTo.locality

orderInformation.shipTo.postalCode

paymentInformation.card.type

paymentInformation.method

Related information

[API Field Reference for the REST API](#)

REST Example: Processing a Refund with Level III Data

Endpoint: `POST https://api.cybersource.com/pts/v2/payments/{id}/refunds`

The `{id}` is the transaction ID returned in the capture or sale response.

Request

```
{
  "clientReferenceInformation": {
    "code": "Simple Refund Invoice"
  },
  "processingInformation": {
    "purchaseLevel": "3"
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "112.00",
      "currency": "GBP",
      "taxAmount": "18.67"
    },
    "billTo": {
      "firstName": "Buyer",
      "lastName": "OfGoods",
      "company": {
        "name": "Acme Inc"
      },
      "address1": "1 High Street",
      "locality": "Belfast",
      "postalCode": "BT1 2AB",
      "country": "UK",
      "email": "a@b.com"
    },
    "lineItems": [
      {
        "productName": "Widgets",
        "productSku": "WID1",
        "quantity": "7",
```



```

        "unitPrice": "10.00",
        "unitOfMeasure": "EA",
        "totalAmount": "70.00",
        "taxAmount": "14.00",
        "taxRate": "20.00",
        "taxTypeCode": "S"
    },
    {
        "productName": "Freight",
        "productSku": "ABC123",
        "quantity": "1",
        "unitPrice": "23.33",
        "unitOfMeasure": "EA",
        "totalAmount": "23.33",
        "taxAmount": "4.67",
        "taxRate": "20.00",
        "taxTypeCode": "S"
    }
],
"invoiceDetails": {
    "purchaseOrderNumber": "PO21122",
    "purchaseOrderDate": "20220601",
    "costCenter": "WE21122",
    "invoiceDate": "20220601000000",
    "supplierOrderReference": "ACME1234"
},
"buyerInformation": {
    "merchantCustomerId": "TESTBBREFACD21122",
    "vatRegistrationNumber": "GB123421100"
},
"merchantInformation": {
    "merchantDescriptor": {
        "name": "Widgets Inc",
        "contact": "02890491491",
        "address1": "1 Main Street",
        "locality": "Belfast",
        "country": "UK",
        "postalCode": "BT1 2AB"
    },
    "vatRegistrationNumber": "GB987654321"
}
}

```

Successful Response

```
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/refunds/6799463712606276304953/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/refunds/6799463712606276304953"
    }
  },
  "clientReferenceInformation": {
    "code": "Simple Sale Invoice"
  },
  "id": "6799463712606276304953",
  "orderInformation": {
    "invoiceDetails": {
      "level3TransmissionStatus": "Y"
    },
    "amountDetails": {
      "currency": "GBP"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "tokenizedCard": {
      "type": "001"
    },
    "card": {
      "type": "001"
    }
  },
  "processorInformation": {
    "approvalCode": "888888",
    "responseCode": "100"
  },
  "reconciliationId": "70383210IFKZFMTP",
  "refundAmountDetails": {
    "currency": "GBP",
    "refundAmount": "112.00"
  },
}
```

```
"status": "PENDING",
"submitTimeUtc": "2023-03-27T19:46:11Z"
}
```

REST Example: Processing a Tax-Only Refund with Level III Data

Endpoint: POST <https://api.cybersource.com/pts/v2/payments/{id}/refunds>

The `{id}` is the transaction ID returned in the capture or sale response.

Request

Tax-only processing requires two transactions: a sale and a refund. This example shows a tax-only refund. See [REST Example: Processing a Tax-Only Sale with Level III Data \(on page 38\)](#) for an example of a tax-only sale.

Pass the payment ID in the URL path and set **orderInformation.lineItems.productName** as `NET-ADJUST`.

```
{
  "clientReferenceInformation": {
    "code": "Tax Only Refund Invoice"
  },
  "processingInformation": {
    "purchaseLevel": "3"
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "72.87",
      "currency": "GBP",
      "taxAmount": "0.00"
    },
    "billTo": {
      "firstName": "Buyer",
      "lastName": "OfGoods",
      "company": {
        "name": "Acme Inc"
      },
      "address1": "1 High Street",
      "locality": "Belfast",
      "postalCode": "BT1 2AB",
      "country": "UK",
      "email": "a@b.com"
    },
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    {
      "productName": "NET-ADJUST",
      "productSku": "XYZ123",
      "quantity": "1",
      "unitPrice": "72.87",
      "unitOfMeasure": "FOC",
      "totalAmount": "72.87",
      "taxAmount": "0.00",
      "taxRate": "0.00",
      "taxTypeCode": "Z"
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  ],
  "invoiceDetails": {
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    "purchaseOrderDate": "20220601",
    "costCenter": "WE21122",
    "invoiceDate": "20220601000000",
    "supplierOrderReference": "ACME1234"
  }
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  "merchantCustomerId": "TESTBBREFACD21122",
  "vatRegistrationNumber": "GB123421100"
},
"merchantInformation": {
  "merchantDescriptor": {
    "name": "Widgets Inc",
    "contact": "02890491491",
    "address1": "1 Main Street",
    "locality": "Belfast",
    "country": "UK",
    "postalCode": "BT1 2AB"
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  "vatRegistrationNumber": "GB987654321"
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Successful Response

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{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/refunds/6799464736446300004953/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/refunds/6799464736446300004953"
    }
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    "code": "Tax Only Refund Invoice"
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  "id": "6799464736446300004953",
  "orderInformation": {
    "invoiceDetails": {
      "level3TransmissionStatus": "Y"
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    "amountDetails": {
      "currency": "GBP"
    }
  },
  "processorInformation": {
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    "responseCode": "100"
  },
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  "refundAmountDetails": {
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    "refundAmount": "72.87"
  },
  "status": "PENDING",
  "submitTimeUtc": "2023-03-27T19:47:53Z"
}
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Reference Information

The following reference information is included:

- [Special Characters \(on page 54\)](#)
- [Units of Measurement Codes \(on page 57\)](#)

Special Characters

Barclays accepts a limited set of characters. The following table lists the supported characters and the associated decimal and hex values.

Decimal and Hex Codes for Special Characters

Decimal	Hex	Character
32	20	SP
33	21	!
34	22	"
37	25	%
38	26	&
39	27	'
40	28	(
41	29)
42	2A	*
43	2B	+
44	2C	,
45	2D	-
46	2E	.
47	2F	/
48	30	0
49	31	1
50	32	2

Decimal and Hex Codes for Special Characters (continued)

Decimal	Hex	Character
51	33	3
52	34	4
53	35	5
54	36	6
55	37	7
56	38	8
57	39	9
58	3A	:
59	3B	;
60	3C	<
61	3D	=
62	3E	>
63	3F	?
65	41	A
66	42	B
67	43	C
68	44	D
69	45	E
70	46	F
71	47	G
72	48	H
73	49	I
74	4A	J
75	4B	K
76	4C	L
77	4D	M
78	4E	N
79	4F	O
80	50	P

Decimal and Hex Codes for Special Characters (continued)

Decimal	Hex	Character
81	51	Q
82	52	R
83	53	SP
84	54	T
85	55	U
86	56	V
87	57	W
88	58	X
89	59	Y
90	5A	Z
95	5F	-
97	61	a
98	62	b
99	63	c
100	64	d
101	65	e
102	66	f
103	67	g
104	68	h
105	69	i
106	6A	j
107	6B	k
108	6C	l
109	6D	m
110	6E	n
111	6F	o
112	70	p
113	71	q
114	72	r

Decimal and Hex Codes for Special Characters (continued)

Decimal	Hex	Character
115	73	SP
116	74	t
117	75	u
118	76	v
119	77	w
120	78	x
121	79	y
122	7A	z

Units of Measure Codes

This table lists the codes for units of measure used in international trade.

Units of Measure Codes for American Express Direct

Code	Description
1	Actual Pounds
2	Statute Mile
3	Seconds
4	Small Spray
5	Lifts
6	Digits
7	Strand
8	Heat Lots
9	Tire
10	Group
11	Outfit
12	Packet
13	Ration
14	Shot

Units of Measure Codes for American Express Direct (continued)

Code	Description
15	Stick
16	115 Kilogram Drum
17	100 Pound Drum
18	55 Gallon Drum
19	Tank Truck
1A	Car Mile
1B	Car Count
1C	Locomotive Count
1D	Caboose Count
1E	Empty Car
1F	Train Mile
1G	Fuel Usage (Gallons)
1H	Caboose Mile
1I	Fixed Rate
1J	Ton Miles
1K	Locomotive Mile
1L	Total Car Count
1M	Total Car Mile
1N	Count
1O	Season
1P	Tank Car
1Q	Frames
1R	Transactions
1X	Quarter Mile
20	20 Foot Container
21	40 Foot Container
22	Deciliter per Gram
23	Grams per Cubic Centimeter
24	Theoretical Pounds

Units of Measure Codes for American Express Direct (continued)

Code	Description
25	Grams per Square Centimeter
26	Actual Tons
27	Theoretical Tons
28	Kilograms per Square Meter
29	Pounds per 1000 Square Feet
2A	Radians Per Second
2B	Radians Per Second Squared
2C	Roentgen
2F	Volts Per Meter
2G	Volts (Alternating Current)
2H	Volts (Direct Current)
2I	British Thermal Units (BTUs) Per Hour
2J	Cubic Centimeters Per Second
2K	Cubic Feet Per Hour
2L	Cubic Feet Per Minute
2M	Centimeters Per Second
2N	Decibels
2P	Kilobyte
2Q	Kilobecquerel
2R	Kilocurie
2U	Megagram
2V	Megagrams Per Hour
2W	Bin
2X	Meters Per Minute
2Y	Milliroentgen
2Z	Millivolts
30	Horsepower Days per Air Dry Metric Tons
31	Catchweight
32	Kilograms per Air Dry Metric Tons

Units of Measure Codes for American Express Direct (continued)

Code	Description
33	Kilopascal Square Meters per Gram
34	Kilopascals per Millimeter
35	Milliliters per Square Centimeter Second
36	Cubic Feet per Minute per Square Foot
37	Ounces per Square Foot
38	Ounces per Square Foot per 0.01 Inch
39	Basis Points
3B	Megajoule
3C	Manmonth
3E	Pounds Per Pound of Product
3F	Kilograms Per Liter of Product
3G	Pounds Per Piece of Product
3H	Kilograms Per Kilogram of Product
3I	Kilograms Per Piece of Product
40	Milliliter per Second
41	Milliliter per Minute
43	Super Bulk Bag
44	500 Kilogram Bulk Bag
45	300 Kilogram Bulk Bag
46	25 Kilogram Bulk Bag
47	50 Pound Bag
48	Bulk Car Load
4A	Bobbin
4B	Cap
4C	Centistokes
4D	Curie
4E	20-Pack
4F	100-Pack
4G	Microliter

Units of Measure Codes for American Express Direct (continued)

Code	Description
4H	Micrometer
4I	Meters Per Second
4J	Meters Per Second Per Second
4K	Milliamperes
4L	Megabyte
4M	Milligrams Per Hour
4N	Megabecquerel
4O	Microfarad
4P	Newtons Per Meter
4Q	Ounce Inch
4R	Ounce Foot
4S	Pascal
4T	Picofarad
4U	Pounds Per Hour
4V	Cubic Meter Per Hour
4W	Ton Per Hour
4X	Kiloliter Per Hour
50	Actual Kilograms
51	Actual Tonnes
52	Credits
53	Theoretical Kilograms
54	Theoretical Tonnes
56	Sitas
57	Mesh
58	Net Kilograms
59	Parts Per Million
5A	Barrels per Minute
5B	Batch
5C	Gallons per Thousand

Units of Measure Codes for American Express Direct (continued)

Code	Description
5E	MMSCF/Day
5F	Pounds per Thousand
5G	Pump
5H	Stage
5I	Standard Cubic Foot
5J	Hydraulic Horse Power
5K	Count per Minute
5P	Seismic Level
5Q	Seismic Line
60	Percent Weight
61	Parts Per Billion
62	Percent Per 1000 Hours
63	Failure Rate In Time
64	Pounds Per Square Inch Gauge
65	Coulomb
66	Oersteds
67	Siemens
68	Ampere
69	Test Specific Scale
70	Volt
71	Volt-Ampere Per Pound
72	Watts Per Pound
73	Ampere Turn Per Centimeter
74	Milli Pascals
76	Gauss
77	Mil
78	Kilogauss
79	Electron Volt
80	Pounds Per Square Inch Absolute

Units of Measure Codes for American Express Direct (continued)

Code	Description
81	Henry
82	Ohm
83	Farad
84	Kilo Pounds Per Square Inch (KSI)
85	Foot Pounds
86	Joules
87	Pounds per Cubic Foot
89	Poise
8C	Cord
8D	Duty
8P	Project
8R	Program
8S	Session
8U	Square Kilometer
90	Saybold Universal Second
91	Stokes
92	Calories per Cubic Centimeter
93	Calories per Gram
94	Curl Units
95	20,000 Gallon Tankcar
96	10,000 Gallon Tankcar
97	10 Kilogram Drum
98	15 Kilogram Drum
99	Watt
A8	Dollars per Hours
AA	Ball
AB	Bulk Pack
AC	Acre
AD	Bytes

Units of Measure Codes for American Express Direct (continued)

Code	Description
AE	Amperes per Meter
AF	Centigram
AG	Angstrom
AH	Additional Minutes
AI	Average Minutes Per Call
AJ	Cop
AK	Fathom
AL	Access Lines
AM	Ampoule
AN	Minutes or Messages
AO	Ampere-turn
AP	Aluminum Pounds Only
AQ	Anti-hemophilic Factor (AHF) Units
AR	Suppository
AS	Assortment
AT	Atmosphere
AU	Ocular Insert System
AV	Capsule
AW	Powder-Filled Vials
AX	Twenty
AY	Assembly
AZ	British Thermal Units (BTUs) per Pound
B0	British Thermal Units (BTUs) per Cubic Foot
B1	Barrels per Day
B2	Bunks
B3	Batting Pound
B4	Barrel, Imperial
B5	Billet
B6	Bun

Units of Measure Codes for American Express Direct (continued)

Code	Description
B7	Cycles
B8	Board
B9	Batt
BA	Bale
BB	Base Box
BC	Bucket
BD	Bundle
BE	Beam
BF	Board Feet
BG	Bag
BH	Brush
BI	Bar
BJ	Band
BK	Book
BL	Block
BM	Bolt
BN	Bulk
BO	Bottle
BP	100 Board Feet
BQ	Brake horse power
BR	Barrel
BS	Basket
BT	Belt
BU	Bushel
BV	Bushel, Dry Imperial
BW	Base Weight
BX	Box
BY	British Thermal Unit (BTU)
BZ	Million BTU's

Units of Measure Codes for American Express Direct (continued)

Code	Description
C0	Calls
C1	Composite Product Pounds (Total Weight)
C2	Carset
C3	Centiliter
C4	Carload
C5	Cost
C6	Cell
C7	Centipoise (CPS)
C8	Cubic Decimeter
C9	Coil Group
CA	Case
CB	Carboy
CC	Cubic Centimeter
CD	Carat
CE	Centigrade, Celsius
CF	Cubic Feet
CG	Card
CH	Container
CI	Cubic Inches
CJ	Cone
CK	Connector
CL	Cylinder
CM	Centimeter
CN	Can
CO	Cubic Meters (Net)
CP	Crate
CQ	Cartridge
CR	Cubic Meter
CS	Cassette

Units of Measure Codes for American Express Direct (continued)

Code	Description
CT	Carton
CU	Cup
CV	Cover
CW	Hundred Pounds (CWT)
CX	Coil
CY	Cubic Yard
CZ	Combo
D2	Shares
D3	Square Decimeter
D5	Kilogram Per Square Centimeter
D8	Draize Score
D9	Dyne per Square Centimeter
DA	Days
DB	Dry Pounds
DC	Disk (Disc)
DD	Degree
DE	Deal
DF	Dram
DG	Decigram
DH	Miles
DI	Dispenser
DJ	Decagram
DK	Kilometers
DL	Deciliter
DM	Decimeter
DN	Deci Newton-Meter
DO	Dollars, U.S.
DP	Dozen Pair
DQ	Data Records

Units of Measure Codes for American Express Direct (continued)

Code	Description
DR	Drum
DS	Display
DT	Dry Ton
DU	Dyne
DW	Calendar Days
DX	Dynes per Centimeter
DY	Directory Books
DZ	Dozen
E1	Hectometer
E3	Inches, Fraction--Average
E4	Inches, Fraction--Minimum
E5	Inches, Fraction--Actual
E7	Inches, Decimal--Average
E8	Inches, Decimal--Actual
E9	English, (Feet, Inches)
EA	Each
EB	Electronic Mail Boxes
EC	Each per Month
ED	Inches, Decimal--Nominal
EE	Employees
EF	Inches, Fraction-Nominal
EG	Double-time Hours
EH	Knots
EJ	Locations
EM	Inches, Decimal-Minimum
EP	Eleven pack
EQ	Equivalent Gallons
EV	Envelope
EX	Feet, Inches and Fraction

Units of Measure Codes for American Express Direct (continued)

Code	Description
EY	Feet, Inches and Decimal
EZ	Feet and Decimal
F1	Thousand Cubic Feet Per Day
F2	International Unit
F3	Equivalent
F4	Minim
F5	MOL
F6	Price Per Share
F9	Fibers per Cubic Centimeter of Air
FA	Fahrenheit
FB	Fields
FC	1000 Cubic Feet
FD	Million Particles per Cubic Foot
FE	Track Foot
FF	Hundred Cubic Meters
FG	Transdermal Patch
FH	Micromolar
FJ	Sizing Factor
FK	Fibers
FL	Flake Ton
FM	Million Cubic Feet
FO	Fluid Ounce
FP	Pounds per Sq. Ft.
FR	Feet Per Minute
FS	Feet Per Second
FT	Foot
FZ	Fluid Ounce (Imperial)
G2	U.S. Gallons Per Minute
G3	Imperial Gallons Per Minute

Units of Measure Codes for American Express Direct (continued)

Code	Description
G4	Gigabecquerel
G5	Gill (Imperial)
G7	Microfiche Sheet
GA	Gallon
GB	Gallons/Day
GC	Grams per 100 Grams
GD	Gross Barrels
GE	Pounds per Gallon
GF	Grams per 100 Centimeters
GG	Great Gross (Dozen Gross)
GH	Half Gallon
GI	Imperial Gallons
GJ	Grams per Milliliter
GK	Grams per Kilogram
GL	Grams per Liter
GM	Grams per Sq. Meter
GN	Gross Gallons
GO	Milligrams per Square Meter
GP	Milligrams per Cubic Meter
GQ	Micrograms per Cubic Meter
GR	Gram
GS	Gross
GT	Gross Kilogram
GU	Gauss per Oersteds
GV	Gigajoules
GW	Gallons Per Thousand Cubic Feet
GX	Grain
GY	Gross Yard
GZ	Gage Systems

Units of Measure Codes for American Express Direct (continued)

Code	Description
H1	Half Pages - Electronic
H2	Half Liter
H4	Hectoliter
HA	Hank
HB	Hundred Boxes
HC	Hundred Count
HD	Half Dozen
HE	Hundredth of a Carat
HF	Hundred Feet
HG	Hectogram
HH	Hundred Cubic Feet
HI	Hundred Sheets
HJ	Horsepower
HK	Hundred Kilograms
HL	Hundred Feet - Linear
HM	Miles Per Hour
HN	Millimeters of Mercury
HO	Hundred Troy Ounces
HP	Millimeter H2O
HQ	Hectare
HR	Hours
HS	Hundred Square Feet
HT	Half Hour
HU	Hundred
HV	Hundred Weight (Short)
HW	Hundred Weight (Long)
HY	Hundred Yards
HZ	Hertz
IA	Inch Pound

Units of Measure Codes for American Express Direct (continued)

Code	Description
IB	Inches Per Second (Vibration Velocity)
IC	Counts per Inch
IE	Person
IF	Inches of Water
IH	Inhaler
II	Column-Inches
IK	Peaks per Inch (PPI)
IL	Inches per Minute
IM	Impressions
IN	Inch
IP	Insurance Policy
IT	Counts per Centimeter
IU	Inches Per Second (Linear Speed)
IV	Inches Per Second Per Second (Acceleration)
IW	Inches Per Second Per Second (Vibration Acceleration)
J2	Joule Per Kilogram
JA	Job
JB	Jumbo
JE	Joule Per Kelvin
JG	Joule per Gram
JK	Mega Joule per Kilogram
JM	Megajoule/Cubic Meter
JO	Joint
JR	Jar
JU	Jug
K1	Kilowatt Demand
K2	Kilovolt Amperes Reactive Demand
K3	Kilovolt Amperes Reactive Hour
K4	Kilovolt Amperes

Units of Measure Codes for American Express Direct (continued)

Code	Description
K5	Kilovolt Amperes Reactive
K6	Kiloliter
K7	Kilowatt
K9	Kilograms per Millimeter Squared (KG/MM2)
KA	Cake
KB	Kilocharacters
KC	Kilograms per Cubic Meter
KD	Kilograms Decimal
KE	Keg
KF	Kilopackets
KG	Kilogram
KH	Kilowatt Hour
KI	Kilograms/Millimeter Width
KJ	Kilosegments
KK	100 Kilograms
KL	Kilograms/Meter
KM	Kilograms per Square Meter, Kilograms, Decimal
KO	Millequivalence Caustic Potash per Gram of Product
KP	Kilometers Per Hour
KQ	Kilopascal
KR	Kiloroentgen
KS	1000 Pounds per Square Inch
KT	Kit
KU	Task
KV	Kelvin
KW	Kilograms per Millimeter
KX	Milliliters per Kilogram
L2	Liters Per Minute
LA	Pounds Per Cubic Inch

Units of Measure Codes for American Express Direct (continued)

Code	Description
LB	Pound
LC	Linear Centimeter
LE	Lite
LF	Linear Foot
LG	Long Ton
LH	Labor Hours
LI	Linear Inch
LJ	Large Spray
LK	Link
LL	Lifetime
LM	Linear Meter
LN	Length
LO	Lot
LP	Liquid Pounds
LQ	Liters Per Day
LR	Layer(s)
LS	Lump Sum
LT	Liter
LX	Linear Yards Per Pound
LY	Linear Yard
M0	Magnetic Tapes
M1	Milligrams per Liter
M2	Millimeter-Actual
M3	Mat
M4	Monetary Value
M5	Microcurie
M6	Millibar
M7	Micro Inch
M8	Mega Pascals

Units of Measure Codes for American Express Direct (continued)

Code	Description
M9	Million British Thermal Units per One Thousand Cubic Feet
MA	Machine/Unit
MB	Millimeter-Nominal
MC	Microgram
MD	Air Dry Metric Ton
ME	Milligram
MF	Milligram per Sq. Ft. per Side
MG	Metric Gross Ton
MH	Microns (Micrometers)
MI	Metric
MJ	Minutes
MK	Milligrams Per Square Inch
ML	Milliliter
MM	Millimeter
MN	Metric Net Ton
MO	Months
MP	Metric Ton
MQ	1000 Meters
MR	Meter
MS	Square Millimeter
MT	Metric Long Ton
MU	Millicurie
MV	Number of Mults
MW	Metric Ton Kilograms
MX	Mixed
MY	Millimeter-Average
MZ	Millimeter-minimum
N1	Pen Calories
N2	Number of Lines

Units of Measure Codes for American Express Direct (continued)

Code	Description
N3	Print Point
N4	Pen Grams (Protein)
N6	Megahertz
N7	Parts
N9	Cartridge Needle
NA	Milligrams per Kilogram
NB	Barge
NC	Car
ND	Net Barrels
NE	Net Liters
NF	Messages
NG	Net Gallons
NH	Message Hours
NI	Net Imperial Gallons
NJ	Number of Screens
NL	Load
NM	Nautical Mile
NN	Train
NQ	Mho
NR	Micro Mho
NS	Short Ton
NT	Trailer
NU	Newton-Meter
NV	Vehicle
NW	Newton
NX	Parts Per Thousand
NY	Pounds Per Air-Dry Metric Ton
OA	Panel
OC	Billboard

Units of Measure Codes for American Express Direct (continued)

Code	Description
ON	Ounces per Square Yard
OP	Two pack
OT	Overtime Hours
OZ	Ounce - Av
P0	Pages - Electronic
P1	Percent
P2	Pounds per Foot
P3	Three pack
P4	Four-pack
P5	Five-pack
P6	Six pack
P7	Seven pack
P8	Eight-pack
P9	Nine pack
PA	Pail
PB	Pair Inches
PC	Piece
PD	Pad
PE	Pounds Equivalent
PF	Pallet (Lift)
PG	Pounds Gross
PH	Pack (PAK)
PI	Pitch
PJ	Pounds, Decimal - Pounds per Square Foot - Pound Gage
PK	Package
PL	Pallet/Unit Load
PM	Pounds-Percentage
PN	Pounds Net
PO	Pounds per Inch of Length

Units of Measure Codes for American Express Direct (continued)

Code	Description
PP	Plate
PQ	Pages per Inch
PR	Pair
PS	Pounds per Sq. Inch
PT	Pint
PU	Mass Pounds
PV	Half Pint
PW	Pounds per Inch of Width
PX	Pint, Imperial
PY	Peck, Dry U.S.
PZ	Peck, Dry Imperial
Q1	Quarter (Time)
Q2	Pint U.S. Dry
Q3	Meal
Q4	Fifty
Q5	Twenty-Five
Q6	Thirty-Six
Q7	Twenty-Four
QA	Pages - Facsimile
QB	Pages - Hardcopy
QC	Channel
QD	Quarter Dozen
QE	Photographs
QH	Quarter Hours
QK	Quarter Kilogram
QR	Quire
QS	Quart, Dry U.S.
QT	Quart
QU	Quart, Imperial

Units of Measure Codes for American Express Direct (continued)

Code	Description
R1	Pica
R2	Becquerel
R3	Revolutions Per Minute
R4	Calorie
R5	Thousands of Dollars
R6	Millions of Dollars
R7	Billions of Dollars
R8	Roentgen Equivalent in Man (REM)
R9	Thousand Cubic Meters
RA	Rack
RB	Radian
RC	Rod (area) - 16.25 Square Yards
RD	Rod (length) - 5.5 Yards
RE	Reel
RG	Ring
RH	Running or Operating Hours
RK	Roll-Metric Measure
RL	Roll
RM	Ream
RN	Ream-Metric Measure
RO	Round
RP	Pounds per Ream
RS	Resets
RT	Revenue Ton Miles
RU	Run
S1	Semester
S2	Trimester
S3	Square Feet per Second
S4	Square Meters per Second

Units of Measure Codes for American Express Direct (continued)

Code	Description
S5	Sixty-fourths of an Inch
S6	Sessions
S7	Storage Units
S8	Standard Advertising Units (SAUs)
S9	Slip Sheet
SA	Sandwich
SB	Square Mile
SC	Square Centimeter
SD	Solid Pounds
SE	Section
SF	Square Foot
SG	Segment
SH	Sheet
SI	Square Inch
SJ	Sack
SK	Split Tanktruck
SL	Sleeve
SM	Square Meter
SN	Square Rod
SO	Spool
SP	Shelf Package
SQ	Square
SR	Strip
SS	Sheet-Metric Measure
ST	Set
SV	Skid
SW	Skein
SX	Shipment
SY	Square Yard

Units of Measure Codes for American Express Direct (continued)

Code	Description
SZ	Syringe
T0	Telecommunications Lines in Service
T1	Thousand pounds gross
T2	Thousandths of an Inch
T3	Thousand Pieces
T4	Thousand Bags
T5	Thousand Casings
T6	Thousand Gallons
T7	Thousand Impressions
T8	Thousand Linear Inches
T9	Thousand Kilowatt Hours
TA	Tenth Cubic Foot
TB	Tube
TC	Truckload
TD	Therms
TE	Tote
TF	Ten Square Yards
TG	Gross Ton
TH	Thousand
TI	Thousand Square Inches
TJ	Thousand Sq. Centimeters
TK	Tank
TL	Thousand Feet (Linear)
TM	Thousand Feet (Board)
TN	Net Ton (2,000 LB).
TO	Troy Ounce
TP	Ten-pack
TQ	Thousand Feet
TR	Ten Square Feet

Units of Measure Codes for American Express Direct (continued)

Code	Description
TS	Thousand Square Feet
TT	Thousand Linear Meters
TU	Thousand Linear Yards
TV	Thousand Kilograms
TW	Thousand Sheets
TX	Troy Pound
TY	Tray
TZ	Thousand Cubic Feet
U1	Treatments
U2	Tablet
U3	Ten
U5	Two Hundred Fifty
UA	Torr
UB	Telecommunications Lines in Service - Average
UC	Telecommunications Ports
UD	Tenth Minutes
UE	Tenth Hours
UF	Usage per Telecommunications Line - Average
UH	Ten Thousand Yards
UL	Unitless
UM	Million Units
UN	Unit
UP	Troche
UQ	Wafer
UR	Application
US	Dosage Form
UT	Inhalation
UU	Lozenge
UV	Percent Topical Only

Units of Measure Codes for American Express Direct (continued)

Code	Description
UW	Milliequivalent
UX	Dram (Minim)
UY	Fifty Square Feet
UZ	Fifty Count
V1	Flat
V2	Pouch
VA	Volt-ampere per Kilogram
VC	Five Hundred
VI	Vial
VP	Percent Volume
VR	Volt-ampere-reactive
VS	Visit
W2	Wet Kilo
WA	Watts per Kilogram
WB	Wet Pound
WD	Work Days
WE	Wet Ton
WG	Wine Gallon
WH	Wheel
WI	Weight per Square Inch
WK	Week
WM	Working Months
WP	Pennyweight
WR	Wrap
WW	Milliliters of Water
X1	Chains (Land Survey)
X2	Bunch
X3	Clove
X4	Drop

Units of Measure Codes for American Express Direct (continued)

Code	Description
X5	Head
X6	Heart
X7	Leaf
X8	Loaf
X9	Portion
XP	Base Box per Pound
Y1	Slice
Y2	Tablespoon
Y3	Teaspoon
Y4	Tub
YD	Yard
YL	100 Lineal Yards
YR	Years
YT	Ten Yards
Z1	Lift Van
Z2	Chest
Z3	Cask
Z4	Hogshead
Z5	Lug
Z6	Conference Points
Z8	Newspaper Agate Line
ZA	Bimonthly
ZB	Biweekly
ZC	Semiannual
ZP	Page
ZZ	Mutually Defined