

PAY BUTTON

USER GUIDE

Version: 1.2

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1 About Pay Button

The *Pay Button* function gives the user the ability to create an HTML link that can be embedded into HTML content (e.g. a website or HTML email). When clicked, it will allow a payment to be taken via the hosted form that will be pre-populated with the data specified when creating the link.

The advantage of *Pay Button* is that it offers the functionality of Cardstream without having to complete a Hosted or Direct integration, meaning it can be included in basic HTML without the need for any scripting languages.

2 Using the Pay Button Creator

The *Pay Button* creation page can be accessed via the *Pay Button* menu item on the main menu in the MMS.

Pay Button

Below you can create a payment button which can be included on your website or in an e-mail. Once clicked, the user will be asked for their card details. You will also be asked for the URL of your "payment successful" page and an optional "Payment Failed" page. You can also be notified by email, if you enter an email address in the "Notification Email" box below.

Merchant Account:	<input type="text" value="TEST (100001)"/>	required	ⓘ
Currency:	<input type="text" value="GBP"/>	required	ⓘ
Merchant's country:	<input type="text" value="United Kingdom"/>	required	ⓘ
Amount:	<input type="text"/>	required	ⓘ
Order Reference:	<input type="text"/>	optional	ⓘ
Redirect URL:	<input type="text"/>	required //Example: https://www.mystore.com/payment-complete	ⓘ
Redirect URL on failure:	<input type="text"/>	optional //Example: https://www.mystore.com/payment-failure	ⓘ
Notification Email:	<input type="text"/>	optional	ⓘ
Customer Receipts Required:	<input type="text" value="Yes"/>	Optional	ⓘ
Button Text:	<input type="text" value="Pay Now"/>	required	ⓘ
Address Required:	<input type="text" value="Yes"/>	Optional	ⓘ

2.1 Fields

Merchant Account	Required	This specifies the Merchant Account to receive the payments into. The list will show all your merchant accounts and a default test account.
Merchant Password	Required if set	This field is only presented if the account already has a merchant password setup via the preferences page. We advise using signatures instead which are handled automatically when the button is created if a signature key is set using the preferences page.
Currency	Required	This is the currency for the transactions. The list will show all the currencies that the selected Merchant Account can handle.
Country	Required	The country in which the merchant is based.
Amount	Required	The amount due for payment by the customer. NOTE: The value should be given without the currency symbol, e.g. 10.00.
Order Reference	Optional	This value will be logged with any transaction made using the link and will be shown in the MMS. It can be used for order tracking, etc.
Redirect URL	Required	The location to go to after the payment has taken place. This can be any URL you wish to direct the customer to after a payment or attempted payment has been made. NOTE: If a value for Redirect URL on Failure is supplied, the URL specified for Redirect URL will only be used when a payment has been successful.
Redirect URL on Failure	Optional	The location to go after a payment has failed. If no value is supplied the value from Redirect URL will be used.

Notification Email	Optional	If a payment is successful, a notification email will be sent to this address. If left blank, then the default notification email address set in the preferences page for the merchant account will be used.
Button Text	Required	This is the value to display as the link text.
Address Required	Optional	If set to 'Yes', the 'Address' and 'Postcode' sections on the hosted form are marked as required and cannot be omitted. If set to 'No', the 'Address' and 'Postcode' fields are optional. The default value for this field is 'No'.

2.2 Inserting the Link/QR Code

Once 'Create Button' has been clicked, the link will be formatted and displayed on the next page.

There are 4 options presented: Styled, Un-Styled, Link only and QR Code which can be selected using the tabs on the page. Previews of all the styling options can be seen in the Preview window.

To insert the code into HTML content, click the Select Code button and then right click and copy the selected code. The code must be pasted into the code view of your HTML content, where you can view and edit the raw HTML and edit any inline CSS. The link will then be ready for use.

Styled



Copy the button code:

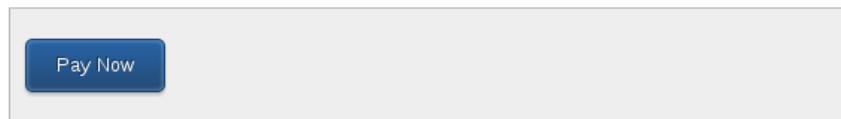
1. Click **Select Code**.
2. Right-click and copy the selected code.

Paste the button code into your website editor:

The code must be pasted in the "code" view, where you can view and edit HTML.

```
<a
href='https://gateway.cardstream.com/button/gpz0t9'
style="font-family: Arial,Helvetica,sans-serif;
width: auto; background: #2864A7; background: -moz-
linear-gradient(top, #2864A7 0%, #244B76 100%); /*
FF3.6+ */ background: -webkit-gradient(linear, left
top, left bottom, color-stop(0%,#2864A7), color-
stop(100%,#244B76)); /* Chrome,Safari4+ */
```

Preview



The styled option makes the link look like a pre-formatted button. This is useful for displaying on websites to fit of the style/content of a web-page. It isn't always suitable to send across e-mail clients as the client may not support formatted CSS.

Un-Styled

Styled **Un-Styled** Link Only QR Code

Copy the button code:

1. Click **Select Code**.
2. Right-click and copy the selected code.

Paste the button code into your website editor:

The code must be pasted in the "code" view, where you can view and edit HTML.

```
<a href='https://gateway.cardstream.com/button/u15rau'>Pay Now</a>
```

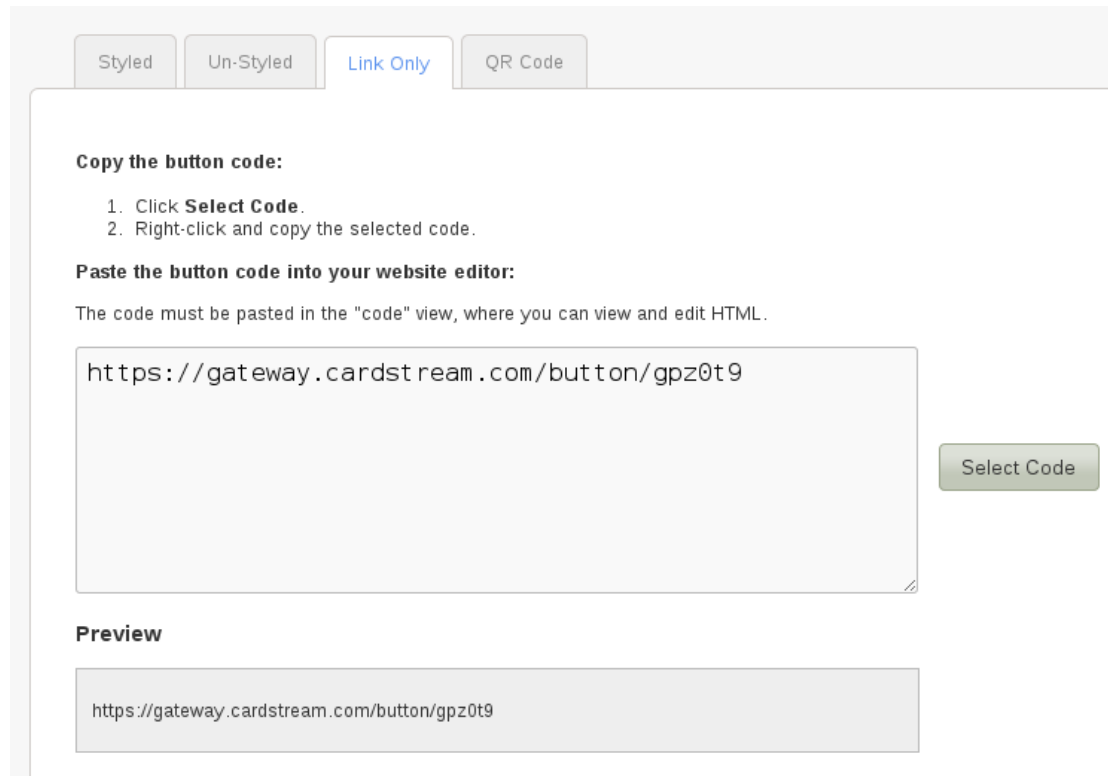
Select Code

Preview

[Pay Now](#)

The Un-Styled option creates a standard link that can be styled later using CSS or used as is. This is useful if you want a base to work from to create a button of your choice using CSS.

Link Only



Styled Un-Styled **Link Only** QR Code

Copy the button code:

1. Click **Select Code**.
2. Right-click and copy the selected code.

Paste the button code into your website editor:

The code must be pasted in the "code" view, where you can view and edit HTML.

```
https://gateway.cardstream.com/button/gpz0t9
```

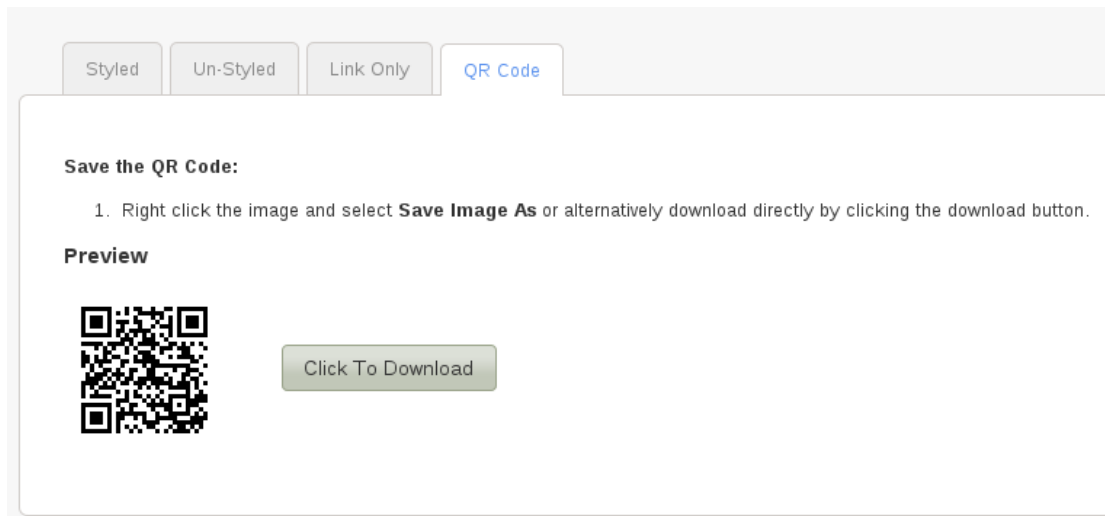
Select Code

Preview

```
https://gateway.cardstream.com/button/gpz0t9
```

The link only option provides the raw URL without embedding it in an HTML link. If you want a simple link to send to customers, this is the best option.

QR Code



The QR Code option adds the ability for a QR Code to be downloaded. It is automatically generated and is displayed on the page for testing/preview purposes. Click the download button to save it in a file which can then be uploaded or placed wherever you wish. Alternatively, you can right click the preview image and save it from your browser.

A QR Code scanner has to be used to 'read' the code, which will then send the link of the payment form to the device.

3 Advanced Integration

3.1 Advanced Integration

3.1.1 About This Guide

The Cardstream Pay Button Advanced Integration method requires the merchant (or the merchant's web developer) to have knowledge of server side scripting languages (e.g. PHP, ASP etc.), although less so than the Direct method. Unlike the Direct method, the merchant's website does not need to have a SSL Certificate, and PCI compliance becomes more straightforward.

If you wish to take card details on your own website, or style the payment pages of your website, you either need to use the Direct integration method or request a Custom Hosted Form for your business.

3.1.2 New Customers Testing

New customers who have not yet received their merchant ID can still perform a test integration. Simply enter **TEST** as your merchant ID and use one of the Cardstream test cards.

This guide provides the information required to integrate with Cardstream, and gives a very basic example of code for doing so. It is expected that the Merchant, or the Merchant's developers, have some experience in server side scripting with languages such as PHP or ASP, or that an off-the-shelf software package is being used that has in-built Cardstream integration support.

If you do require programming assistance, please contact Cardstream on 0845 00 99 575 or via email to solutions@Cardstream.com.

3.1.3 Pre-Requisites

You will need the following information to integrate with Cardstream Hosted Forms via a Pay Button.

<p>Cardstream Merchant ID</p>	<p>Your Merchant user ID enables you to access and communicate with the Cardstream payment gateway. Please note that these details will differ to the login supplied to access the administration panel. You should have received these details when your account was set up.</p> <p>You may also use test account IDs (if you have been issued with a test ID) and swap these for your live account details when you receive them.</p> <p>NB: You can also enter “TEST” as the Merchant ID to test the system. This allows prospective customers to test the integration prior to signing up for an account.</p>
<p>Integration URL</p>	<p><code>https://gateway.Cardstream.com/button/{YOUR_LINK}</code></p>

3.1.4 3D Secure

If your merchant account is enrolled with 3D Secure, the hosted form method will automatically attempt to perform 3D Secure transactions. If the customer's card is not participating in 3D Secure then the transaction will be processed as normal, otherwise it will take the customer through the 3D Secure authentication process.

You can choose how to deal with 3D Secure transactions that fail authentication – either declining the transaction or continuing without 3D Secure protection. These preferences are set in the Merchant Management System.

3.1.5 Test Cards

To download the latest copy of the Cardstream test cards, for both 3D Secure and non 3D Secure transactions, please contact Cardstream for our Integration Guides/Test Cards.

3.2 Gateway Request

To create the button the details should be URL encoded Name=Value fields separated by ‘&’ characters (refer to [RFC 1738](#) and the application/x-www-form-urlencoded media type). This is then base64 encoded with all padding characters (=) stripped and the following characters +, / replaced with – and _ respectively. This string is then appended to the gateway URL to give the final link.

Please note that the field names are cAsE sEnSiTiVe.

3.2.1 General Fields

Field Name	Mandatory?	Description
merchantID	Yes	Your Cardstream Merchant user ID, or “TEST” if you are just testing.
amount	Yes	The amount of the transaction in minor currency. For the UK, this is pence, so £10.99 should be sent as 1099. Numeric values only – no decimal points or currency symbols.
action	Yes	The transaction action. Possible values are: PREAUTH This will reserve an amount from the customer’s card but not collect them. For a period of up to 5 days (depending on the card issuing bank) after the transaction is placed, you can place a subsequent transaction with an action of SALE and the xref value returned from the first transaction in order to collect the previously reserved funds. This subsequent transaction is usually preformed using a direct integration. If the period of time between the first and second transactions is greater than the card issuing bank reserves the funds for, then new, unreserved funds will be taken from the cardholders account.

		<p>SALE</p> <p>This will collect an amount from the customer's card.</p>
type	Yes	<p>The type of transaction.</p> <p>Possible values are: 1 - Cardholder Not Present: Ecommerce. 2 - Cardholder Not Present: Mail Order. 3 - Point of Sale: Card Keyed. 4 - Point of Sale: Card Swiped. 5 - Point of Sale: Card Chip & Pin.</p>
countryCode	Yes	ISO standard country code for the merchant's location.
currencyCode	Yes	ISO standard currency code for this transaction. You may only use currencies that are enabled for your merchant account.
transactionUnique	No	A unique identifier for this transaction. This should be set by your website or shopping cart. This is an added security feature to combat transaction spoofing.
orderRef	No	This text field allows you to describe the order or provide an invoice number/reference number for the merchant's records.

3.2.2 Redirection and Verification Fields

The Hosted Form, after completion, will redirect the customer to the **redirectURL** or **redirectURLFail**, which will be called with POST data attached. Since this POST could conceivably be forged by a malicious user, it is a good idea to also supply a **callbackURL**. If supplied, the Hosted Form will POST the same transaction result data to the Callback URL in the background. This background page should be used to update your database.

Field Name	Mandatory?	Description
redirectURL	Yes	The URL to which the customer will be redirected and the transaction result will be POSTed.
redirectURLFail	No	The URL to which the customer will be redirected and the transaction result will be POSTed if the transaction fails. If left blank, the redirectURL will be used.
callbackURL	No (Recommended)	A non-public URL which will receive a copy of the transaction result by POST.
notifyEmail	No	An RFC 2822 compliant email address or list to which the merchant will receive a confirmation email on a successful transaction.

3.2.3 Customer Details Fields

Customer details are optional by default, however if the merchant has chosen to require AVS checking in their preferences, then **customerAddress** and **customerPostCode** become mandatory. Usually the customer will enter this data into the hosted form, however if it is previously known it can be included in the button code to pre-populate the fields. All data is stored and accessible within the administration panel.

Field Name	Mandatory?	Description
customerName	No	The customer or cardholder's name.
customerAddress	Yes, if AVS enabled	The customer or cardholder's address. For AVS checking this must be the registered billing address of the card.
customerPostCode	Yes, if AVS enabled	The customer or cardholder's post code. For AVS checking this must be the registered billing post code of the card.
customerEmail	No	The customer's email address.
customerPhone	No	The customer's telephone number.
customerAddressMandatory	No	If set to 'Y' makes the customerAddress & customerPostCode fields mandatory on the hosted form.

3.2.4 American Express and Diners Card Fields

American Express or Diners Card cards require additional information about the customer's purchase to be posted to the hosted form. Only one order line needs to be entered. For other card types all items are optional and will be stored for reference purpose only.

Field Name	Mandatory?	Description
item1Description	Yes [†]	A short text description of the item.
item1Quantity	Yes [†]	The quantity of the item purchased.
item1GrossValue	Yes [†]	The gross, or tax inclusive, value of this order line.
item2Description	No	A short text description of the item.
item2Quantity	No	The quantity of the item purchased.
item2GrossValue	No	The gross, or tax inclusive, value of this order line.
item3Description	No	A short text description of the item.
item3Quantity	No	The quantity of the item purchased.
item3GrossValue	No	The gross, or tax inclusive, value of this order line.
item4Description	No	A short text description of the item.
item4Quantity	No	The quantity of the item purchased.
item4GrossValue	No	The gross, or tax inclusive, value of this order line.
item5Description	No	A short text description of the item.
item5Quantity	No	The quantity of the item purchased.
item5GrossValue	No	The gross, or tax inclusive, value of this order line.

[†]These fields are only mandatory if an American Express or Diners Card is used for payment.

With American Express or Diners Cards you may also provide tax **or** discount information. Once again for other cards types any values provided will be stored for reference purposes only.

Field Name	Mandatory?	Description
taxValue	No	The total amount of tax for this order.
taxDiscountDescription	No	A text field to describe the tax applied (e.g. "VAT at 20%")

OR

Field Name	Mandatory?	Description
discountValue	No	The total amount of discount applied to this order.
taxDiscountDescription	No	A text field to describe the discount applied.

3.2.5 Merchant Data Field

The merchant may send arbitrary data with the request by appending extra fields which will be returned in the response unmodified. These extra fields are merely 'echoed' back and not stored by Cardstream.

However the Merchant can put extra information that should be stored into a **merchantData** field. Associative data can be serialised using the notation **merchantData[name]=value**.

Data sent in this field can be viewed in the Merchant Management System.

Field Name	Mandatory?	Description
merchantData	No	Arbitrary data to be stored along with this transaction.

3.3 Gateway Response

The Cardstream Hosted Form method returns data to the Redirect URL (and Callback URL, if supplied) via an HTTP POST request. The details are sent URL encoded Name=Value fields separated by ‘&’ characters (refer to [RFC 1738](#) and the application/x-www-form-urlencoded media type).

The fields initially sent to the integration URL are returned and in addition the following fields may be returned.

Please note that the field names are cAsE sEnSiTiVe.

3.3.1 Response Fields

Field Name	Returned?	Description
responseCode	Always	<p>A numeric code providing the outcome of the transaction.</p> <p>Possible values are:</p> <p>0 - Successful / authorised transaction. 2 - Card referred. 4 - Card declined – keep card 5 - Card declined.</p> <p>Check responseMessage for more detail or any error that occurred.</p> <p>For a full list of error codes please refer to the table in Appendix A.</p>
responseMessage	Always	The message received from the acquiring bank, or any error message.
xref	Always	The merchant may store the cross reference for repeat transactions and refunds.
transactionUnique	If supplied	The value supplied in the initial request, if any.
amountReceived	On success	The amount of the transaction. This field used in conjunction with transactionUnique can help provide a measure of security.

transactionID	Always	The ID of the transaction on the Cardstream system – can be used to easily reconcile transactions in the administration panel.
orderRef	If supplied	The value supplied in the initial request, if any.
avscv2ResponseCode	Optional	The result of the AVS/CV2 check. Please see Appendix 33 for a full list of possible responses.
avscv2ResponseMessage	Optional	The message received from the acquiring bank, or any error message with regards to the AVS/CV2 check. Please see Appendix 33 for a full list of possible responses.
cv2Check	Optional	Textual description of the AVS/CV2 CV2 check as described in Appendix 33. Possible values are: 'not known', 'not checked', 'matched', 'not matched', 'partially matched'
addressCheck	Optional	Textual description of the AVS/CV2 address check as described in Appendix 33. Possible values are: 'not known', 'not checked', 'matched', 'not matched', 'partially matched'
postcodeCheck	Optional	Textual description of the AVS/CV2 postcode check as described in Appendix 33. Possible values are: 'not known', 'not checked', 'matched', 'not matched', 'partially matched'
avscv2AuthEntity	Optional	Textual description of the AVS/CV2 authorizing entity. Possible values are: 'not known', 'merchant host', 'acquirer host', 'card scheme', 'issuer'

cardNumberMask	Always	Card number masked so only the last 4 digits are visible - for example: *****1234
cardTypeCode	Always	The code of card used. See appendix 30 for a full list.
cardType	Always	The description of the card used. See Appendix 30 for a full list.

3.3.2 3D Secure Fields

When a 3D Secure transaction is processed then the following additional fields may be returned.

Field Name	Returned?	Description
threeDSEnabled	Yes	The 3D Secure status of the merchant account. Possible values are: N – the merchant is not 3DS enabled Y – the merchant is 3DS enabled
threeDSEnrolled	Yes	The 3D Secure enrolment status for the credit card. Possible values are: Y - Enrolled. N - Not Enrolled. U - Unable To Verify E - Error Verifying Enrolment. Refer to Appendix 33 for further information.
threeDSAauthenticated	No	The 3D Secure authentication status for the credit card. Possible values are: Y - Authentication Successful. N - Not Authenticated. U - Unable To Authenticate. A - Attempted Authentication. E - Error Checking Authentication.

		Refer to Appendix 33 for further information.
threeDSPaReq	No	Payer Authentication Request (PaReq) that is sent to the Access Control Server (ACS) in order to verify the 3D Secure status of the credit card.
threeDSPaRes	No	Payer Authentication Response (PaRes) that is returned from the Access Control Server (ACS) determining the 3D Secure status of the credit card.
threeDSACSURL	No	The URL of the Access Control Server (ACS) to which the Payer Authentication Request (PaReq) should be sent.
threeDSECI	No	<p>This contains a two digit Electronic Commerce Indicator (ECI) value, which is to be submitted in a credit card authorization message.</p> <p>This value indicates to the processor that the customer data in the authorization message has been authenticated.</p> <p>The data contained within this property is only valid if the threeDSAuthenticated value is Y or A.</p>
threeDSCAVV	No	<p>This contains a 28-byte Base-64 encoded Cardholder Authentication Verification Value (CAVV).</p> <p>The data contained within this property is only valid if the threeDSAuthenticated value is Y or A.</p>
threeDSCAVVAlgorithm	No	This contains the one digit value which indicates the algorithm used by the Access Control Server (ACS) to generate the CAVV.

		<p>Valid algorithms include (amongst others):</p> <ul style="list-style-type: none"> 0 - HMAC 1 - CVV 2 - CVV with ATN <p>The data contained within this property is only valid if the threeDSAuthenticated value is Y or A.</p>
threeDSXID	No	A unique identifier for the transaction as used in the 3D Secure process. This is normally a 20 character string.
threeDSErrorCode	No	Any error response code returned by the 3D Secure Access Control Server (ACS) should there be an error in determining the cards 3D Secure status.
threeDSErrorDescription	No	Any error response description returned by the 3D Secure Access Control Server (ACS) should there be an error in determining the cards 3D Secure status.
threeDSMerchantPref	No	Any merchant 3D Secure preference used to block or allow this transaction should the card not be authorized. These preferences can be set in the merchant control panel.
threeDSVETimestamp	No	The time the card was checked for 3D Secure enrolment.
threeDSCATimestamp	No	The time the card was checked for 3D Secure authentication.

A-1 Response Codes

The gateway will always issue a **responseCode** to report the status of the transaction. These codes should be used rather than the **responseMessage** field to determine the outcome of a transaction.

A zero response code always indicates a successful outcome.

Response codes are grouped as follows, the groupings are for informational purposes only and not all codes in a group are used;

Acquirer (FI) Error codes: 1-99	
Code	Description
0	Successful / authorised transaction. Any code other than 0 indicates an unsuccessful transaction
2	Card referred
4	Card declined – keep card
5	Card declined
30	An error occurred. Check responseMessage for more detail

General Error Codes: 65536 - 65791	
Code	Description
65536	Transaction in progress. Refer to Cardstream if this error occurs
64437	Reserved for future use. Refer to Cardstream if this error occurs
65538	Reserved for future use. Refer to Cardstream if this error occurs
65539	Invalid Credentials: merchantID is unknown
65540	Permission denied: caused by sending a request from an unauthorized IP address
65541	Reserved for future use. Refer to Cardstream if this error occurs

65542	Request Mismatch: fields sent while completing a request do not match initially requested values. Usually due to sending different card details when completing a 3D Secure transaction to those used to authorise the transaction
65543	Request Ambiguous: request could be misinterpreted due to inclusion of mutually exclusive fields
65544	Request Malformed: couldn't parse the request data
65545	Suspended Merchant account
65546	Currency not supported by Merchant
65547	Request Ambiguous, both taxValue and discountValue provided when should be one only
65548	Database error
65549	Payment processor communications error
65550	Payment processor error
65551	Internal communications error
65552	Internal error

3D Secure Error Codes: 65792 - 66047

Code	Description
65792	3D Secure transaction in progress. Refer to Cardstream if this error occurs
65793	Unknown 3D Secure Error
65794	3D Secure processing is unavailable. Merchant account doesn't support 3D Secure
65795	3D Secure processing is not required for the given card
65796	3D Secure processing is required for the given card
65797	Error occurred during 3D Secure enrolment check

65798	Reserved for future use. Refer to Cardstream if this error occurs
65799	Reserved for future use. Refer to Cardstream if this error occurs
65800	Error occurred during 3D Secure authentication check
65801	Reserved for future use. Refer to Cardstream if this error occurs
65802	3D Secure authentication is required for this card
65803	3D Secure enrolment or authentication failure and Merchant 3DS preferences are to STOP processing

Missing Request Field Error Codes: 66048 - 66303	
Code	Description
66048	Missing request. No data posted to integration URL
66049	Missing merchantID field
66050	Reserved for future use. Refer to Cardstream if this error occurs.
66051	Reserved for internal use. Refer to Cardstream if this error occurs
66052	Reserved for internal use. Refer to Cardstream if this error occurs
66053	Reserved for internal use. Refer to Cardstream if this error occurs
66054	Reserved for internal use. Refer to Cardstream if this error occurs
66055	Missing action field
66056	Missing amount field
66057	Missing currencyCode field
66058	Missing cardNumber field
66059	Missing cardExpiryMonth field
66060	Missing cardExpiryYear field
66061	Missing cardStartMonth field (reserved for future use)

66062	Missing cardStartYear field (reserved for future use)
66063	Missing cardIssueNumber field (reserved for future use)
66064	Missing cardCVV field
66065	Missing customerName field
66066	Missing customerAddress field
66067	Missing customerPostCode field
66068	Missing customerEmail field
66069	Missing customerPhone field (reserved for future use)
66070	Missing countyCode field
66071	Missing transactionUnique field (reserved for future use)
66072	Missing orderRef field (reserved for future use)
66073	Missing remoteAddress field (reserved for future use)
66074	Missing redirectURL field
66075	Missing callbackURL field (reserved for future use)
66076	Missing merchantData field (reserved for future use)
66077	Missing origin field (reserved for future use)
66078	Missing duplicateDelay field (reserved for future use)
66079	Missing itemQuantity field (reserved for future use)
66080	Missing itemDescription field (reserved for future use)
66081	Missing itemGrossValue field (reserved for future use)
66082	Missing taxValue field (reserved for future use)
66083	Missing discountValue field (reserved for future use)
66084	Missing taxDiscountDescription field (reserved for future use)
66085	Missing xref field (reserved for future use)

66086	Missing type field (reserved for future use)
66087	Reserved for future use
66088	Reserved for future use
66089	Missing transactionID field (reserved for future use)
66090	Missing threeDSRequired field (reserved for future use)
66091	Missing threeDSMD field (reserved for future use)
66092	Missing threeDSPaRes field
66093	Missing threeDSECI field
66094	Missing threeDSCAVV field
66095	Missing threeDSXID field

Invalid Request Field Error Codes: 66304 - 66559	
Code	Description
66304	Invalid request
66305	Invalid merchantID field
66306	Reserved for future use. Refer to Cardstream if this error occurs
66307	Reserved for internal use. Refer to Cardstream if this error occurs
66308	Reserved for internal use. Refer to Cardstream if this error occurs
66309	Reserved for internal use. Refer to Cardstream if this error occurs
66310	Reserved for internal use. Refer to Cardstream if this error occurs
66311	Invalid action field
66312	Invalid amount field
66313	Invalid currencyCode field
66314	Invalid cardNumber field

66315	Invalid cardExpiryMonth field
66316	Invalid cardExpiryYear field
66317	Invalid cardStartMonth field
66318	Invalid cardStartYear field
66319	Invalid cardIssueNumber field
66320	Invalid cardCVV field
66321	Invalid customerName field
66322	Invalid customerAddress field
66323	Invalid customerPostCode field
66324	Invalid customerEmail field
66325	Invalid customerPhone field
66326	Invalid countyCode field
66327	Invalid transactionUnique field (reserved for future use)
66328	Invalid orderRef field (reserved for future use)
66329	Invalid remoteAddress field
66330	Invalid redirectURL field
66331	Invalid callbackURL field (reserved for future use)
66332	Invalid merchantData field (reserved for future use)
66333	Invalid origin field (reserved for future use)
66334	Invalid duplicateDelay field (reserved for future use)
66335	Invalid itemQuantity field
66336	Invalid itemDescription field
66337	Invalid itemGrossValue field

66338	Invalid taxValue field
66339	Invalid discountValue field
66340	Invalid taxDiscountDescription field (reserved for future use)
66341	Invalid xref field
66342	Invalid type field
66343	Reserved for future use
66344	Reserved for future use
66345	Invalid transactionID field
66356	Invalid threeDSRequired field
66347	Invalid threeDSMD field
66348	Invalid threeDSPaRes field
66349	Invalid threeDSECI field
66350	Invalid threeDSCAVV field
66351	Invalid threeDSXID field
66416	Invalid card expiry date. Must be a date sometime in the next 10 years
66417	Invalid card start date. Must be a date sometime in the last 10 years
66418	Invalid item count. Tried to supply more than 6 line item details
66419	Invalid item sequence. Out of sequence line item details

A-2 Types of Card

The following is a list of card types which may be returned by the gateway.

Card Code	Card Type
AM	American Express
CF	Clydesdale Financial Services
DI	Diners Club
EL	Electron
JC	JCB
MA	International Maestro
MC	Mastercard
SO	Solo
ST	Style
SW	Domestic Maestro (Formerly Switch)
VC	Visa Credit
VD	Visa Debt
VP	Visa Purchasing

A-3 AVS / CV2 Check Response

The AVS/CV2 Check Response Message field **avscv2ResponseMessage** is sent back in the raw form that is received from the acquiring bank and can contain the following values:

Response	Description
ALL MATCH	AVS and CV2 match.
SECURITY CODE MATCH ONLY	CV2 match only.
ADDRESS MATCH ONLY	AVS match only.
NO DATA MATCHES	No matches for AVS and CV2.
DATA NOT CHECKED	Supplied data not checked.
SECURITY CHECKS NOT SUPPORTED	Card scheme does not support checks.

The AVS/CV2 Response Code **avscv2ResponseCode** is made up of six characters and is sent back in the raw form that is received from the acquiring bank. The first 4 characters can be decoded as below, the remaining 2 characters are currently reserved for future use:

Position 1 Value	Description
0	No additional information available.
1	CV2 not checked.
2	CV2 matched.
4	CV2 not matched.
8	Reserved.

Position 2 Value	Description
0	No additional information available.
1	Postcode not checked.
2	Postcode matched.
4	Postcode not matched.
8	Postcode partially matched.

Position 3 Value	Description
0	No additional Information.
1	Address numeric not checked.
2	Address numeric matched.
4	Address numeric not matched.
8	Address numeric partially matched.

Position 4 Value	Description
0	Authorising entity not known.
1	Authorising entity – merchant host.
2	Authorising entity – acquirer host.
4	Authorising entity – card scheme.
8	Authorising entity – issuer.

A-4 3D Secure Enrolment/Authentication Codes

The 3D Secure enrolment check field **threeDSEnrolled** can return the following values:

Y - Enrolled: The card is enrolled in the 3D Secure program and the payer is eligible for authentication processing.

N - Not Enrolled: The checked card is eligible for the 3D Secure (it is within the card association's range of accepted cards) but the card issuing bank does not participate in the 3D Secure program. If the cardholder later disputes the purchase, the issuer may not submit a chargeback to the merchant.

U - Unable To Verify Enrolment: The card associations were unable to verify if the cardholder is registered. As the card is ineligible for 3D Secure, merchants can choose to accept the card nonetheless and precede the purchase as non-authenticated and submits authorization with ECI 7. The Acquirer/Merchant retains liability if the cardholder later disputes making the purchase.

E - Error Verify Enrolment: The Cardstream system encountered an error. This card is flagged as 3D Secure ineligible. The card can be accepted for payment, yet the merchant may not claim a liability shift on this transaction in case of a dispute with the cardholder.

The 3D Secure authentication check field **threeDSAAuthenticated** can return the following values:

Y - Authentication Successful: The Issuer has authenticated the cardholder by verifying the identity information or password. A CAVV and an ECI of 5 is returned. The card is accepted for payment.

N - Not Authenticated: The cardholder did not complete authentication and the card should not be accepted for payment.

U - Unable To Authenticate: The authentication was not completed due to technical issues or another problem. A transmission error prevented authentication from completing. The card should be accepted for payment but no authentication data will be passed on to authorization processing and no liability shift will occur.

A - Attempted Authentication: A proof of authentication attempt was generated. The cardholder is not participating, but the attempt to authenticate was recorded. The card should be accepted for payment and authentication information passed to authorization processing.

E - Error Checking Authentication: The Cardstream system encountered an error. The card should be accepted for payment but no authentication information will be passed to authorization processing and no liability shift will occur.

A-5 Example Code

The following example shows how to generate a button URL and format it as an HTML link:

```
<?php

function createSignature(array $data, $key, $algo = null) {

    if ($algo === null) {
        $algo = 'SHA512';
    }

    ksort($data);

    // Create the URL encoded signature string
    $ret = http_build_query($data, '', '&');

    // Normalise all line endings (CRNL|NL|CR) to just NL
    $ret = preg_replace('/%0D%0A|%0A%0D|%0A%0D/i', '%0A',
    $ret);

    // Hash the signature string and the key together
    $ret = hash($algo, $ret . $key);

    // Prefix the algorithm if not the default
    if ($algo !== 'SHA512') {
        $ret = '{' . $algo . '}' . $ret;
    }

    return $ret;
}

$gateway_url = 'https://gateway.Cardstream.com/button/';
$signature_key = 'Circle4Take40Idea';

$fields = array(
    'merchantID'      => 100001,
    'amount'          => 101,
    'action'          => 'SALE',
    'type'            => 1,
    'countryCode'     => 826,
    'currencyCode'    => 826,
    'transactionUnique' => uniqid(),
    'orderRef'        => 'Button Test',
    'redirectURL'     => ($_SERVER['HTTPS'] == 'on' ? 'https' :
'http') . '://' . $_SERVER['HTTP_HOST'] . $_SERVER['REQUEST_URI'],
    'merchantData'    => 'CS-PayByLink',
```

```
);  
  
$fields['signature'] = createSignature($fields, $signature_key);  
  
//Convert array to Query String  
$link = http_build_query($fields);  
  
//Optionally compress the string to make the link smaller  
$link = gzdeflate($link, 9);  
  
//Base64 encode the string and remove any padding or invalid  
//URL characters including =,+/  
$link = strtr(trim(base64_encode($link), '='), '+/', '-_');  
  
$link = $gateway_url . $link;  
  
echo "<p><a href='{ $link }'>Pay Now</a></p>";
```

When the user clicks the 'Pay Now' button they will be taken to the Cardstream integration page via the button URL that has been created. Here, the user will be given the option to enter their card details and billing address. If additional customer or transaction information is supplied in the button creation process, then the values sent will be used to populate the initial values of the controls on the Cardstream hosted form. When the customer submits this hosted form, the transaction will be attempted and the results will be sent as a HTTP POST request to the specified **redirectURL**. An example is given below:

/myshop/ordercomplete.php:

```
if( $_POST['responseCode'] === "0" ) {  
    echo "<p>Thank you for your payment</p>";  
}  
else{  
    echo "<p>Failed to take payment: " .  
    htmlentities($_POST['responseMessage']) . "</p>";  
}
```

A-6 Signing Your Request

A message can be signed by hashing the whole URL encoded Name=Value request string with a secret passphrase appended. This security passphrase can be configured on a per merchant account basis in the Merchant Management System (MMS).

Care must be taken to normalise any embedded line endings to just use a single New Line character (ascii character 10).

Various hashing algorithms are supported allowing you to choose the one most suitable for your integration language - SHA512 is the default and preferred. If you are using an algorithm other than SHA512 then the algorithm name should be pre-pended to the hash enclosed in braces.

The following algorithms are supported (ordered from most secure to least secure): SHA512, SHA256, SHA1, MD5, CRC32.

The hash must be sent in the signature field. This field must not be included in the message that is used to generate the hash.

Note: When a secret is configured for the merchant account then every message must be signed – failure to sign a message will cause it to be rejected due to a missing signature. The gateway will also sign any response and any details POSTed to any Callback URL using the same signature allowing the merchant to verify that any response has not been tampered with.