
PayPass – M/Chip Application Note #17

This application note provides the errata for:

*PayPass M/Chip Acquirer Implementation Requirements, Version 1.0
dated July 2008*

This application note is dated October 6, 2009 and replaces completely
PayPass – M/Chip Application Note #16, April 2, 2009.

Its purpose is to clarify the different requirements that apply when deploying *PayPass*
readers developed to the following versions of the *PayPass* technical specifications:

PayPass – M/Chip Reader Card Application Interface Specification, Version 2.0

*PayPass – M/Chip Technical Specifications, Version 1.3 — Part II (no longer
distributed)*

With the release of this application note, the following document is rendered obsolete:

PayPass M/Chip Acquirer Implementation Requirements, dated June 2006

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- 1 Section "Related Publications", page 5. Modify the table as follows:

Document	Relevance
<i>PayPass – M/Chip Technical Specifications* (and Application Notes) – Part II</i>	The principal reference document for MasterCard <i>PayPass</i> Technical Requirements
*NOTE : Future release will be called	
<i>PayPass – M/Chip Interface and Interoperability Requirements</i>	
<u><i>PayPass – M/Chip Reader Card Application Interface Specification, Version 2.0 + PayPass – M/Chip Application Note #15</i></u>	<u>The two versions of the technical specifications defining the behavior of <i>PayPass – M/Chip</i> readers.</u>
<u><i>PayPass – M/Chip Technical Specifications, Version 1.3 – Part II + PayPass – M/Chip Application Note #11</i></u>	<u>Note: Version 1.3 of the specifications has been replaced by version 2.0, and is no longer being distributed. In this document, readers certified to these specifications are referred to as "<i>PayPass – M/Chip v2.0</i> readers" and "<i>PayPass – M/Chip v1.3</i> readers" respectively.</u>

- 2 Section "Maestro Specific Documentation", page 6. Add the following entry to the table:

Document	Relevance
<u><i>Revised Maestro <i>PayPass</i> Standards, Global Debit Operations Bulletin No. 1, 12 January 2009</i></u>	<u>Mandates the support by issuers and acquirers of refund transactions for <i>Maestro PayPass</i>.</u>

- 3 Section "Further Information", page 8. Modify the email address as follows:

Testing: testing_terminal@paypass.com

- 4 End of Section 1.3, page 1-2. Add the following text:

Depending on the version of *PayPass* reader deployed, certain requirements in this document may not be applicable. This is indicated where relevant.

- 5 Section 2.1.6, page 2-3. Modify the following text:

2.1.6 ~~Terminal~~Reader Application – Technical Requirements

The ~~terminal~~reader application for all PayPass – M/Chip deployments must meet the technical requirements of one of the versions of the PayPass – M/Chip Technical Specifications indicated in the Related Publications section. Additional PayPass – M/Chip specific application requirements for the ~~terminal~~reader application and transaction processing are described in the following sections.

Acquirers and merchants should be aware that because two different versions of the PayPass reader are available, certain functionality discussed in this document is not applicable, depending on the version of the reader that is used.

In this document, readers certified to the different versions of the specifications are referred to as "PayPass– M/Chip v2.0 readers" and "PayPass – M/Chip v1.3 readers".

- 6 Section 2.3, page 2-6. Modify the section heading as follows:

2.3 ~~New~~ Limits used for PayPass – M/Chip

- 7 Section 2.3.1, page 2-6. Modify the section heading as follows:

2.3.1 ~~New~~ Contactless Limit Data Items for PayPass – M/Chip v2.0 Readers

- 8a Section 2.3.1.2, top of page 2-7. Modify the following text, as shown:

The reader must complete CVM Processing for all transaction amounts, both above and below the Terminal CVM Required limit.

The ~~terminal~~reader must only support ‘No CVM’ as the CVM method for PayPass transactions below or equal to the MasterCard defined limit.

~~Online transactions below or equal to the Terminal CVM Required Limit do not require a CVM.~~

~~Above the Terminal CVM Required Limit, CVM processing is required as defined in the PayPass – M/Chip Technical Specification, and Terminal Action Analysis may result in an online transaction.~~

8b Section 2.3.1.2, page 2-7. Replace the note as follows:



Note

~~The CVM limit does not apply to devices which must, by definition, perform cardholder verification—for example CAT 1.~~

The Terminal CVM Required Limit requires particular attention on devices which by definition must (e.g. CAT1) or must not (e.g. CAT2, CAT3) perform cardholder verification.

For CAT1 devices, it is recommended that the limit be set to zero.

For CAT2 and CAT3 devices, it is recommended that the limit be set to the value indicated in the Chargeback Guide.

9 Page 2-8. Insert a new section 2.3.2, as follows:

2.3.2 Contactless Limit Data Items for PayPass – M/Chip v1.3 Readers

2.3.2.1 Terminal Contactless Transaction Limit

The PayPass Terminal Contactless Transaction Limit is the maximum transaction amount above which a contactless transaction must not be performed. This limit is not part of the PayPass – M/Chip v1.3 reader functionality.

It may be implemented in the POS/terminal, but in that case must apply to all supported AIDs. If the transaction amount is above the limit, then the reader must not be activated for PayPass transactions.

2.3.2.2 Terminal CVM Required Limit

The Terminal CVM Required Limit is described in Section 2.3.1.2. This limit is not part of the standard PayPass – M/Chip v1.3 reader functionality.

It may be implemented in the POS/terminal, and may have different values per AID.

2.3.2.3 Terminal Contactless Floor Limit

The Terminal Contactless Floor Limit is described in Section 2.3.1.3.

In PayPass – M/Chip v1.3 readers the Terminal Contactless Floor Limit can be implemented as a separate data object, or by means of the Terminal Floor Limit.

10 Section 2.3.2, "Hard and Soft Limit Implementations", page 2-8. Renumber the section 2.3.3

11 Section 2.4.1.3, page 2-9. Replace entire section with the following:

2.4.1.3 Refunds

PayPass Refunds

All PayPass acquirers must be able to process refunds initiated via the contactless interface of a PayPass cardholder device for MasterCard PayPass and Maestro PayPass transactions.

All attended PayPass terminals with PayPass M/Chip v2.0 readers must have the capability to be configured to support offline refunds initiated via the contactless interface by both the PayPass – M/Chip and PayPass – Mag Stripe applications, and for both MasterCard PayPass and Maestro PayPass, as appropriate..

To prevent card risk management counters being adversely impacted, refunds must be performed by reading the Track 2 details over the contactless interface and then requesting an AAC from the PayPass – M/Chip card and clearing the refund transaction in the normal way.

For PayPass – Mag Stripe transactions, refunds must be performed by reading Track 2 details via the contactless interface and clearing the refund transaction in the normal way.

On PayPass – M/Chip v1.3 readers, support for contactless refunds is optional. If supported, it is a best practice recommendation that refunds be performed by reading the Track 2 details over the contactless interface and then requesting an AAC from the PayPass – M/Chip card and clearing the refund transaction in the normal way.

It is recommended that PayPass merchants support at least one PayPass terminal configured to conduct offline refunds initiated over the contactless interface.

12 Section 2.4.2, page 2-10. Modify the second paragraph of the section as follows:

PayPass – M/Chip v2.0 terminals readers must support partial name matching during application selection.

Some older PayPass – M/Chip v1.3 readers do not support partial name matching during application selection, which may result in some card applications with extended AIDs not being supported.

13 Section 2.4.7.1, page 2-13. Modify the second paragraph of the section as follows:

PayPass – M/Chip 2.0 readers terminals do not support the use of an accumulated transaction amount by card for the purpose of checking if the floor limit is exceeded. Only the current transaction is considered.

PayPass – M/Chip v1.3 readers may use an accumulated transaction amount by card, as described in EMV Book 3, for the purpose of checking if the floor limit is exceeded.

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14a Section 2.4.7.2, page 2-13. Modify the section as follows:

This EMV check is not performed for ~~PayPass transactions~~ by PayPass – M/Chip v2.0 readers. It may be performed by PayPass – M/Chip v1.3 readers.

15 Section 3.1, page 3-1. Modify the text (1st and 2nd bullets) as follows:

- For each of the above AIDs the following parameters must be configured on PayPass – M/Chip v2.0 readers:
 - Terminal Contactless Transaction Limit
 - Terminal CVM Required Limit
- For each of the above AIDs the following parameters must be configured on all PayPass – M/Chip readers:
 - Terminal Contactless Floor Limit (when using a PayPass – M/Chip v1.3 reader, this may be implemented via the Terminal Floor Limit)
 - Permitted Transaction Types
 - Terminal Action Codes

16 Section 3.2, page 3-3. Modify the note as follows:



Note

PayPass – M/Chip v2.0 readers terminals and recent PayPass – M/Chip v1.3 readers permit partial name matching for these AIDs. This means that AIDs longer than these specific AIDs will also be considered as a successful match.

17 Section 3.6, page 3-11. Replace the entire section with the following:

The Terminal Capabilities field is coded according the definition in EMV Book 4. It must be configured according to the CVM requirements listed in Section 2.4.4.

PayPass – M/Chip v2.0 readers support two instances of the Terminal Capabilities data object.

PayPass terminals must use only 'No CVM' for transactions equal to, or under, the Terminal CVM Required Limit when performing a PayPass – M/Chip transaction. Therefore, the Terminal Capabilities used by the PayPass – M/Chip v2.0 reader in this case must have the bit "No CVM Required" set to 1, and all other bits in Byte 2 set to 0.

PayPass – M/Chip v1.3 readers may support only one instance of the Terminal Capabilities data object. If so and if the merchant wants to support the CVM Required Limit, the POS/terminal may dynamically update the Terminal Capabilities in the PayPass reader depending on the Transaction Amount.

18 Section "Further Information and Contact Details", page 5-6. Modify the email address as follows:

PayPass Testing: testing_terminal@paypass.com

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19 The Terminal Action Codes for use by *PayPass* terminals have been updated following feedback from customers and alignment with contact values where appropriate. These values should be used by all existing *PayPass* – M/Chip acquirer implementations as well as new implementations.

Table 3.2 – MasterCard and Maestro *PayPass* Terminal Action Codes for Online Capable Terminals

Byte/Bit	Meaning	Denial	Online	Default
1/8	Offline Data Authentication was not performed	0	1	1
1/7	Offline SDA failed	0	1	1
1/6	ICC data missing	0	0 1	0 1
1/5	ICC on Hot Card File	0	0 1	0 1
1/4	Offline DDA failed	0	1	1
1/3	Combined DDA/AC Generation failed	0	1	1
1/2	RFU	0	0	0
1/1	RFU	0	0	0
	HEX Value	00	00 FC	00 FC
2/8	ICC & Terminal have different Application Version Numbers	0	0	0
2/7	Expired application	0	1	1
2/6	Application not yet effective	0	0	0
2/5	Service not allowed for card product	0	1	1
2/4	New Card	0	0	0
2/3	RFU	0	0	0
2/2	RFU	0	0	0
2/1	RFU	0	0	0
	HEX Value	00	50	50
3/8	Cardholder verification failed	0	1	1
3/7	Unrecognized CVM	0	0	0
3/6	PIN try limit exceeded	0	0	0
3/5	PIN entry required but PIN pad not present/not working	0	0	0
3/4	PIN required, PIN pad present but PIN not entered	0	0 1	0 1
3/3	On-line PIN entered	0	1	1
3/2	RFU	0	0	0
3/1	RFU	0	0	0

Byte/Bit	Meaning	Denial	Online	Default
	HEX Value	00	84 <u>8C</u>	84 <u>8C</u>
4/8	Transaction exceeds floor limit*	0	1	1
4/7	LCOL exceeded	0	0	0
4/6	UCOL exceeded	0	0	0
4/5	Randomly selected for on-line processing	0	0	0
4/4	Merchant forced transaction on-line	0	1	1
4/3	RFU	0	0	0
4/2	RFU	0	0	0
4/1	RFU	0	0	0
	HEX Value	00	88	88
5/8	Default TDOL used	0	0	0
5/7	Issuer Authentication Unsuccessful	0	0	0
5/6	Script failed before final cryptogram	0	0	0
5/5	Script failed after final cryptogram	0	0	0
5/4	RFU	0	0	0
5/3	RFU	0	0	0
5/2	RFU	0	0	0
5/1	RFU	0	0	0
	HEX Value	00	00	00

* [See Section 2.4.7.1](#). For the current transaction only. Separate transactions must not be accumulated.

Summary of values

Denial: 00 00 00 00 00

Online: €€ FC 50 84 8C 88 00

Default: €€ FC 50 84 8C 88 00

Legend

0: Mandated setting

1: Mandated setting

RFU: Reserved for future use (The settings must be “0, 0, 0”)

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Table 3.3 – MasterCard and Maestro PayPass Terminal Action Codes for Offline Only Terminals

Byte/Bit	Meaning	Denial	Online	Default
1/8	Offline Data Authentication was not performed	1	0	0
1/7	Offline SDA failed	0 1	0	0
1/6	ICC data missing	0 1	0	0
1/5	ICC on Hot Card File	1	0	0
1/4	Offline DDA failed	1	0	0
1/3	Combined DDA/AC Generation failed	1	0	0
1/2	RFU	0	0	0
1/1	RFU	0	0	0
	HEX Value	9C FC	00	00
2/8	ICC & Terminal have different Application Version Numbers	0	0	0
2/7	Expired application	1	0	0
2/6	Application not yet effective	0	0	0
2/5	Service not allowed for card product	1	0	0
2/4	New Card	0	0	0
2/3	RFU	0	0	0
2/2	RFU	0	0	0
2/1	RFU	0	0	0
	HEX Value	50	00	00
3/8	Cardholder verification failed	1	0	0
3/7	Unrecognized CVM	0	0	0
3/6	PIN try limit exceeded	0	0	0
3/5	PIN entry required but PIN pad not present/not working	0	0	0
3/4	PIN required, PIN pad present but PIN not entered	0	0	0
3/3	On-line PIN entered	1 0	0	0
3/2	RFU	0	0	0
3/1	RFU	0	0	0
	HEX Value	84 80	00	00
4/8	Transaction exceeds floor limit*	1	0	0

Byte/Bit	Meaning	Denial	Online	Default
4/7	LCOL exceeded	0	0	0
4/6	UCOL exceeded	0	0	0
4/5	Randomly selected for on-line processing	0	0	0
4/4	Merchant forced transaction on-line	1	0	0
4/3	RFU	0	0	0
4/2	RFU	0	0	0
4/1	RFU	0	0	0
	HEX Value	08 88	00	00
5/8	Default TDOL used	0	0	0
5/7	Issuer Authentication Unsuccessful	0	0	0
5/6	Script failed before final cryptogram	0	0	0
5/5	Script failed after final cryptogram	0	0	0
5/4	RFU	0	0	0
5/3	RFU	0	0	0
5/2	RFU	0	0	0
5/1	RFU	0	0	0
	HEX Value	00	00	00

* [See Section 2.4.7.1](#). For the current transaction only. Separate transactions must not be accumulated.

Summary of values

Denial: 9C FC 50 84 80 08 88 00

Online: 00 00 00 00 00

Default: 00 00 00 00 00

Legend

0: Mandated setting

1: Mandated setting

RFU: Reserved for future use (The settings must be “0, 0, 0”)

20 This application note gives guidance on the terminal implementation of the following limits:

- Terminal Contactless Transaction Limit, and
- Terminal CVM Required Limit.

In the technical documents: *PayPass – M/Chip Reader Card Application Interface Specification* (v2.0 section 3.2.1.4 and 3.2.1.6) and *EMV Entry Point Specification* (v1.0 section 5.2.2) the limits are regarded as being exceeded if the transaction amount is *greater than or equal to* the limit.

In the *PayPass M/Chip Acquirer Implementation Requirements* (section 2.3.1) and in the *MasterCard Chargeback Guide* these limits are regarded as being exceeded if the transaction amount (usually referred to as the “amount, authorised”) is *greater than* the limit, as for other acceptance technologies.

Card acceptance devices must respect the requirements as defined in the technical specifications to gain type approval.

For this reason, when configuring the *PayPass* Terminal Contactless Transaction Limit and Terminal CVM Required Limit into terminals approved according to the *PayPass – M/Chip Reader Card Application Interface Specification* v2.0, acquirers must use a value of one minor currency unit above the limit defined in the rules.

Thus a limit of \$25.00 as specified in the rules must be input as \$25.01 in the terminal in order to achieve the desired behavior.

Note that this *does not* apply to the Terminal Contactless Floor Limit which is defined by the *PayPass –M/Chip Acquirer Implementation Requirements*, the *PayPass – M/Chip Reader Card Application Interface Specification* and *EMV Entry Point Specification* as being exceeded when the transaction amount is *greater than* the limit.