# Nets Terminal Requirement  Specification
# Version 1.2.1

# Synopsis

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|---|---|
| **Document name:** | Nets Terminal Requirement  Specification |
| **Project number:** | |
| **Project name:** | |
| **Version:** | 1.2.1 |
| **Version date:** | |
| **Target group:** | Terminal solution vendors |
| | |
| **Document owner:** | NETS Cards |
| **Document status:** | Released |
| **Document author:** | Erdal Dastan |
| **Quality assured by:** | |
| | |
| **Security classification:** | |
| **OPUS Template:** | |
| **Format:** | pdf |

# Contents

# Introduction

## How to Contact Nets Denmark A/S
Contact addresses are found on www.nets.eu


## How to Contact Nets certification
Mail address: it-verification@nets.eu




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Any new or updated type of Terminal must be verified by Nets Denmark A/S before being installed at Merchant locations and being prepared for transmission of transactions to Nets Denmark A/S. All verification of payment terminals are done on behalf of the card acquirers.

# Overview
## Audience
This document is intended for terminal suppliers and integration vendors implementing payment terminals solutions, using NETS infrastructure.

## Prerequisites
It is assumed that technical readers are familiar with the EMVCo and card scheme specifications, and that all readers have a basic understanding of the chip card technology.

# Target Group
This specification is for manufacturers intending to develop an Terminal or integrated payment solution running on NETS infrastructure for accepting debit/credit cards, and/or prepaid cards, and/or other cards.

# Objectives/ Purpose
The purpose of this specification is to is to have an overall requirement specification for terminals running in NETS infrastructure. The purpose of an overall specification is to have the different payments solution approved for all acquirer and countries using NETS infrastructure.
The PSP specification such as OTRS, SDI, ISO etc. are still valid specifications and must be followed by the payment solution developer.

# Waivers
Any conflicts from this specification compared to other specifications or variations from the requirements written in this specifications can treated by NETS certification board, were a waiver can be granted. The certification board treat waivers every Friday, and the waiver request must be received latest the day before (Thursday) 12:00 O'clock.

# Terminology
ATM : Automated teller machine
CAT : Cardholder Activated Terminal (=UPT)
DCC : Dynamic Currency Conversion
DDA : Dynamic Data Authentication, EMV
DOL: Data Object List
ECR : Electronic Cash Register
EMV : Europay, MasterCard and Visa
ICC : Integrated Circuit Card (chip card)
ISO : International Organization for Standardization
MSC : Magnetic Stripe Card
PAN : Primary Account Number
PCI : Payment Card Industry (PCI SSC)
PCT : Processing Condition Table
PED : PIN Entry Device (PIN pad)
PIN : Personal Identification Number
POS : Point of Service
PKI : Public Key Index
UPT : Unattended Payment Terminal

# Terms

**Attended:** An attendant (an agent of the merchant or of the acquirer) is present at the point of transaction and participates in the transaction by entering transaction-related data. The transaction occurs face to face'.

**Unattended:** The cardholder conducts the transaction at the point of transaction without the participation of an attendant (agent of the merchant or of the acquirer). The transaction does not occur face to face'.

**Online only:** The transaction can normally only be approved in real time by transmission of an authorisation request message.

**Offline with online capability**: Depending upon transaction characteristics, the transaction can be completed offline by the terminal or online in real time. It is equivalent to online with offline capability.

**Offline only:** The transaction can only be completed offline by the terminal.

**Operational control:** Identifies the entity responsible for the operation of the terminal. This does not necessarily equate to the actual owner of the terminal.

**Authorisation**: The validation process which either approves or rejects a payment transaction on the basis of the rules guiding the use of the payment card. These rules are set by the card issuer.

**Cardholder Display**: The display for use by the cardholder.

**Communication Session:** the communication steps from the terminal initiates a connection, until this session is either closed intentionally or interrupted unintentionally.

**Dankort:** The national debit card issued by members of Nets Denmark A/S. Used for purchasing goods and services and for obtaining cash, for which the cardholder's bank account is debited.

**EMV checksum:** An calculated value from emvco during level2 test.

**Point of Service:** the merchant location from where the card transaction originates.

**Private Label Card:** A non-PCI payment card carrying the name of a retailer but actually issued and managed by a third party processor.

**Semi-Attended:** A cardholder activated terminal that can be attended by the merchant in some situation. Especially used in supermarkets. A special agreement must be granted by NETS.

**Single Unit Terminal:** an attended terminal designed to be operated by both the merchant and the cardholder using the same display and keyboard.

**Terminal Operator:** the entity responsible for the surveillance of and the communication with the terminal. The Terminal Operator may also be responsible for maintenance of the Terminal.

**Terminal Supplier:** a supplier of card payment terminals.

**Unattended Payment Terminal (UPT):** The UPT is a cardholder-operated payment terminal that reads, captures and transmits card information in conjunction with an unattended
self-service device, including, but not limited to, the following:
- Automated Fuel Dispenser
- Ticketing Machine
- Vending Machine

**Transaction:** a complete sequence of events included from an administrative routine or card related Business Call is initiated until the result is known. A Transaction is initiated by either merchant or cardholder. A Transaction may include one or more Communication Sessions.

**Visa/Dankort**: a co-branded card which in general act as a Dankort when used in Denmark and as a Visa card when used abroad.

  **Envelope data:** This is a term used for an issuer that can insert special data in a transaction. E.g. a PLC card where the driver can type in what kind of product that are being purchased.                **Voice Authorization:** is the procedure used by the merchant to obtain approval for an offline transaction (phone call to the Acquirer's help desk

**Capture:** It is the final advice/clearing file based on the pre-authorization created, when the amount is known.

**POST:** Post functionality is a way to make either a purchase or refund, when the cardholder is not present anymore. Post functionality is intended to be used if either unexpected expends     arises (e.g. parking tickets) or to pay money back, if expends was lesser than expected.

**Advice transfer:** When transferring the transactions from terminal/PSP to NETS.

**Mandatory:** The requirement is mandatory.

**Conditional:** The requirement may be mandatory. E.g mandatory is the functionality is supported

**Optional:** The requirement is optional

## Terminal types:

| Operational Control Provided By: | | | |
|---|---|---|---|
| **Environment** | **Financial Institution** | **Merchant** | **Cardholder** |
| **Attended** | | | |
| Online only | 11 | 21 | — |
| Offline with online capability | 12 | 22 | — |
| Offline only | 13 | 23 | — |
| **Unattended** | | | |
| Online only | 14 | 24 | 34 |
| Offline with online capability | 15 | 25 | 35 |
| Offline only | 16 | 26 | 36 |

# Related Websites

Related and most recent information may be found at the following websites:

www.nets.eu
www.dankort.dk
www.bsk.no
www.mastercard.com
www.visa.com
www.emvco.com
www.ecbs.org
www.ecbs.com
www.jcbinternational.com
www.pcisecuritystandards.org
www.americanexpress.com
www.dinersclub.com
www.chinaunionpay.com
www.pan-nordic.org

# 1 Prerequisites

## 1.1.0 - EMVco Compliance

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution must be EMVco compliant.

## 1.2.0 - Card Schemes compliance

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution must be compliant with card schemes used.

## 1.3.0 - PCI compliance

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution must be compliant with PCI requirements

## 1.3.1 - Currency exponent

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

ISO 4217 currency code exponent must be used for payment transactions.

If the terminal change currency to another than already approved by NETS, the new currency exponent must be confirmed by Nets

## 1.4.0 - User guide to be provided

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

A user manual for the solution must be provided. This manual shall contain sufficient information making the staff able to operate the system concerning card payments and settlements. The user manual must either be in English or the merchant local language.

## 1.5.0 - Keyloading

| Req. Type | Mandatory | Card Scheme | [Dankort] |
|-----------|-----------|-------------|-----------|
| Country | [DK] | Term. Type | [All] |

Description

The procedures for security evaluation and audit of key loading as defined by Nets shall be fulfilled according to the requirements described in "Declaration for key loading".

## 1.6.0 - Physical Approval

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Physical approval of UPT must be approved by the domestic authorities e.g. Denmark (Nets DK), Sweden (PNC-SAC), Norway (BSK) etc.

## 1.6.1 - PIN PAD approval - Dankort

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [DK] | Term. Type | [All] |

Description

Physical approval of the PIN PAD shield must be obtained by NETS DK for all new terminal devices.

## 1.6.2 - PIN PAD approval - Bankaxept

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [NO] | Term. Type | [All] |

| Description |
|---|
| Physical approval of the PIN PAD shield must be obtained by BSK for all new terminal devices. |

## 1.7.0 - Antiskimming

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [14, 15, 16, 24, 25, 26, 34, 35, 36] |

| Description |
|---|
| An unattended solution may be subject to additional requirements regarding the PIN shield, in order to prevent skimming. |

## 1.8.0 - Interoperability - field issues

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

| Description |
|---|
| In case, NETS suspects an acceptance or interoperability problem, affecting the device or connectivity to NETS, a new certification can be required. |

## 1.9.0 - Protection of equipment

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [14, 15, 16, 24, 25, 26, 34, 35, 36] |

| Description |
|---|
| An unattended terminal must be designed and secured to prevent skimming. |

## 1.10.0 - Protection of equipment - Device Masterkey

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Device Masterkey shall be exchanged if suspicion of unauthorised intrusion or other security leak.

## 1.11.0 - Terminal Management

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Terminal vendor shall develop business procedures securing:

- Transmission of terminal software
- Distribution and installation of system and application software
- Access to modules where system and application software
- Tracking of components and software installed in a given period

## 1.12.0 - Supported card technology

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

NETS only accept solutions, that are able to support chip technology, for certification. Solutions that only support magstripe technology, are not allowed.

## 1.13.0 - Parameters settings - Dankort

| Req. Type | Mandatory | Card Scheme | [Dankort] |
|-----------|-----------|-------------|-----------|
| Country | [DK] | Term. Type | [All] |

Description

For a terminal supporting contact and contactless reading of a Dankort, the terminal must be able to manage and comply with the specific handling of 'Application selection' stated in the 'Terminal parameter' section of the Dankort card scheme requirements.

NOTE: It is recommended to manage 2 separate AID list, 1 for contact and 1 for contactless. All changes to the terminal parameter/configuration must be verified and approved, by NETS.

# 2 Displays

## 2.1.0 - Display text

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The solution shall at least be able to use the local language for display and receipt texts.

Note: In Finland the local language is both Finish and Swedish.

## 2.2.0 - Display messages

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The solution shall follow the message requirements, provided by the frontend.

## 2.3.0 - Display messages duration

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

No cardholder display message shall be displayed less than 1 second, e.g. "Wait" shall be displayed for at least 1 second, even if the event lasts less than 1 second.

## 2.4.0 - Display error messages

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [11, 12, 13, 21, 22, 23, All] |

Description

Error messages shall be displayed for at least 6 seconds or until the merchant has performed the appropriate action.

## 2.5.0 - Display messages characters

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If the cardholder display cannot display 2 lines of 20 characters, the display texts shall be edited in cooperation with Nets.

## 2.6.0 - Language

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If languages other than the merchant's local language are supported, English shall be supported as well.

## 2.7.0 - Messages - more than one card

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If more than one card is needed to perform a transaction, e.g. a payment card and a loyalty card, the display shall inform the cardholder of the required sequence, if of any importance.

## 2.8.0 - Technical failure

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

In case of transaction failure after cardholder's accept, the result of the transaction shall be displayed, followed by a message informing the cardholder on how to get assistance.

## 2.9.0 - Language selection - cardholder display

| Req. Type | Optional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If the terminal supports more than one language for the text on the cardholder display, the cardholder may be able to select the actual language manually.

## 2.10.0 - Language selection - merchant´s display

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

In accordance with EMV version 4.2, ref 20, the language used on the merchant display shall always be the merchant's local language.


## 2.11.0 - Language selection - flow

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The cardholder may be able to select the local language, both before the transaction is initiated and/or during the transaction flow.


## 2.12.0 - Language selection - completion

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

When a transaction is completed and the terminal returns to idle state (ready to service a new cardholder), the cardholders display shall automatically select the merchant's local language as the default language.


## 2.13.0 - Language selection - transaction not initiated

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If a cardholder has selected a language but no transaction has been initiated (i.e. no card inserted), the terminal shall after a pre-defined time-out value automatically shift back to the default language, i.e. the merchant's local language.

# 3 Functionality

## 3.1.0 - Forced Offline

| Req. Type | Mandatory | Card Scheme | [BAX, Dankort] |
|-----------|-----------|-------------|----------------|
| Country   | [DK, NO]  | Term. Type  | [11, 12, 13, 21, 22, 23] |

| Description |
|-------------|
| The solution shall support forced offline in case of no connection to the host. |

## 3.2.0 - Stop List

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country   | [All]    | Term. Type  | [All] |

| Description |
|-------------|
| The solution may contain a stop list, in case of offline procedure. |

## 3.3.0 - Voice Authorisation Calls

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country   | [All]    | Term. Type  | [All] |

| Description |
|-------------|
| The solution may support voice authorisation functionality, in case of offline procedure. |

## 3.4.0 - Signature Verification and Accept

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country   | [All]     | Term. Type  | [11, 12, 13, 21, 22, 23] |

| Description |
|-------------|
| The terminal operator declines or approves the signature of the cardholder after a receipt has been printed. In this case, if the signature is declined, the terminal operator must perform a reversal, since the transaction has been completed by the terminal. |

## 3.5.0 - Error Handling - Transaction Result

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

In case of an error situation, a mechanism shall be built-in to ensure that the final transaction result is distributed to all relevant entities.

## 3.6.0 - Cash Back

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [11, 12, 13, 21, 22, 23] |

Description

The solution may support cash back, according to current rules and regulations.

## 3.7.0 - Cash Back DCC

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Cashback shall not be enabled for DCC transactions.

## 3.8.0 - Surcharges and fees

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution shall present the total amount including surcharges and fees prior to cardholder final acceptance.

## 3.9.0 - Transaction log

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

A transaction log shall contain:

Date, time, PAN (e.g truncated), amount, transaction result and reference No.,

irrespectively of the result.

Note: if all receipts are logged, the requirement is fulfilled.

## 3.9.1 - Transaction log storage

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The transaction log must be saved for at least 18 month. In case of printed logs, the printing technology and paper used (impact, laser,

thermal etc.) shall assure 100% readability after proper storage.

## 3.10.0 - Transaction storage

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The transaction storage shall be protected by a password or merchant key card.

## 3.11.0 - Original authorisation

| Req. Type | Optional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The solution may support original authorisation.

## 3.12.0 - Extended authorisation

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution may support extended authorisation.


## 3.13.0 - Supplementary authorisation

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution may support supplementary authorisation.


## 3.14.0 - Capture

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution may support capture.


## 3.15.0 - Capture - pre-authorisation

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [SE] | Term. Type | [All] |

Description

The terminal shall, for a pre-authorisation transaction, transfer account type information from the authorisation to the capture. This can be done as part of the business specific information in the pre-authorisation.


## 3.16.0 - Reversal

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution may support authorisation reversal. Mandatory, if original authorisation or purchase is supported. Message reason code for technical reversal and manual reversal must be supported.

## 3.17.0 - Cancellation

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| Cancellation may be supported. |

## 3.18.0 - Cancellation - handling

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| The cancellation shall never be cardholder initiated. |

## 3.19.0 - Cancellation - Sweden

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [SE] | Term. Type | [All] |

| Description |
|-------------|
| Attended terminals intended for installation in Sweden shall support the cancellation functionality. |

## 3.20.0 - Cancellation - terms

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| The terminal shall only enable a cancellation if the original business call was a successful purchase transaction. |

## 3.21.0 - Cancellaton - time-out value

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The time-out value for the period in which it will be possible to initiate a cancellation may be configurable.

Note: For NETS FIsolutions there is no time-out value as longs as the originnial transaction can be found in the terminal system, a cancellation can be performed.

## 3.22.0 - Cancellation - confirmation

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The terminal shall prompt the merchant for a confirmation before completing the cancellation transaction.

## 3.23.0 - Cancellation - reversal advice

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

A successful cancellation will delete any corresponding financial advice stored in the data store, and must generate a reversal advice, if the original transaction was online approved.

Note: for contacless transactions the requirements can be different. E.g. Visa paywave does not allow cancellation of an offline approved transaction. Please verify the requirements stated from each card scheme.

## 3.24.0 - Cancellation - total report

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The terminal shall handle a purchase transaction and a corresponding cancellation as a voided transaction in the total report.

## 3.25.0 - Cash

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [11, 12, 13] |

Description

The solution must support cash.


## 3.25.1 - Cash transactions with Dankort

| Req. Type | Mandatory | Card Scheme | [Dankort] |
|---|---|---|---|
| Country | [DK] | Term. Type | [11, 12, 13] |

Description

Cash transactions performed with a Dankort, must be with chip and PIN.


## 3.26.0 - Cash - cardholder specific data

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [11, 12, 13] |

Description

The solution shall support entry of cardholder specific data such as passport id etc. on the receipt.


## 3.27.0 - Account type

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [SE] | Term. Type | [All] |

Description

The solution may support account type selection. **Mandatory in Sweden.**


## 3.28.0 - VAT

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [SE] | Term. Type | [All] |

Description

Entry and reporting of VAT information may be required in some regions. Mandatory in Sweden, if not printed on cash register receipt.

## 3.29.0 - Payment condition code

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| Payment condition code may be supported in certain regions. |

## 3.30.0 - Post registration

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| Post registration may be supported. May be supported for both purchase and refund. <br><br> The solution shall process a post registration as a key entered transaction. |

## 3.31.0 - Prepaid

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| The solution may support prepaid. Card issuer's terms and conditions shall be followed. |

## 3.32.0 - Prepaid - Balance enquiry

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| Balance enquiry may be supported. |

## 3.33.0 - Pre-authorisation

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

A pre-authorisaton shall only be utilised in terminals belonging to the same chain of shops as the terminal creating the pre-authorisation.

## 3.34.0 - Pre-authorisation - cashback

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Cashback shall not be allowed for pre-authorisation transactions.

## 3.35.0 - Pre-authorisation - maintenance

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution shall manage the maintenance of pre-authorisation stored at the merchant system. When a capture/reversal/supplementary has been performed, the pre-authorisation used as input shall, except for terminals supporting post registration, be deleted.

## 3.36.0 - Pre-authorisation - types

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution must ensure that the correct pre-authorisation is used for the capture/reversal/supplementary.

## 3.37.0 - DCC - time limit

| Req. Type | Optional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The terminal shall not support currency conversion if the conversion rate is expired.

Note: the service provider may provide tables many days into the future at banking holidays.

## 3.38.0 - DCC - business calls

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

DCC shal only be an option for the following business calls:

- Purchase
- Original/extended authorisation
- Refund

## 3.39.0 - DCC - card types

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The setup of the DCC tables should ensure that DCC is not offered for national cards.

Note: the tables are probably provided by the conversion service provider.

## 3.40.0 - DCC - rate information

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The rate (amount, currency code and conversion rate) information to the cardholder may either be available in a pre-receipt, or on the terminal display combined with a leaflet.

## 3.41.0 - DCC - PAN control

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Since the PAN controls whether DCC is an option or not, the DCC decision shall be taken after the card has been inserted/swiped in the terminal and before the cardholder accepts any amounts.

## 3.42.0 - DCC - pre-receipt

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

A pre-receipt shall show the amount in both the merchant's local currency and the cardholder's billing currency, together with information about the exchange rate, including mark-up. In case of pre-authorisations the solution must state clearly that it is an estimated rate, and the actual rate is at the time when the capture if performed.

## 3.43.0 - DCC - choice

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The cardholder decides whether the transaction shall be a DCC-transaction or normal transaction

## 3.44.0 - DCC - supplementary authorisation

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

For a supplementary authorisation the currency shall be the same as used during the original/extended authorisation.

## 3.45.0 - DCC - capture, cancellation or reversal authorisation

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

For a capture, cancellation or reversal authorisation the currency to be used shall be the same as in the original transaction.

## 3.46.0 - DCC - refund transactions

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

For refund transactions, the merchant decides the currency to use. No pre-receipt shall be generated and presented to the cardholder.

## 3.47.0 - DCC - options

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The customer shall be able to choose between the options and DCC shall not be selected, if the cardholder cancels or confirms without further activity.

## 3.48.0 - DCC - display

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

the display on the terminal shall show:

- The amount in the merchant's pricing currency
- The amount in the cardholders billling currency.
- The reference exchange rate used.

## 3.49.0 - DCC - refund

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If the original purchase transaction was a DCC transaction, the refund shall be initiated as a DCC transaction too, i.e. the DCC transaction information shall be filled in for the refund transaction too.

## 3.50.0 - Function keys

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

If the cancel key is activated before cardholder approval, the transaction shall be declined.

## 3.51.0 - Gratuity

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution must present the total amount including gratuity for cardholder acceptance. If the cardholder is not present when the total amount is captured, a limit of 15% (of the transaction amount) or a maximum of EUR 150 must be implemented.

## 3.52.0 - Gratuity - options

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Addition of gratuity shall only be an option for purchase and captures, and shall not be possible, if the transaction is key entered.

## 3.53.0 - Gratuity - final amount

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Irrespective of the methods used for tips/gratuity, the final amount accepted by the cardholder - either by PIN or signature - shall include any surcharge and gratuity added. No amount shall be added after the cardholder's acceptance.

## 3.54.0 - Gratuity - decline

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The terminal shall terminate the entry of tips, if the cardholder declines to add tips.

## 3.55.0 - Gratuity - surcharge

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Surcharge shall only be added to the amount covering goods and services. Surcharge shall not be added to the tips amount specified by the cardholder.

## 3.56.0 - Single unit terminal - Transaction sequence

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [11, 12, 13, 21, 22, 23] |

Description

To avoid that a cardholder accidentally enters the PIN while the numeric keyboard is in Clear-Text mode, the transaction sequence for merchant and cardholder shall be clearly separated.

The transaction shall be split into 3 sequential steps:

1. Merchant: Sets up the transaction conditions
2. Cardholder: Reads card, enters PIN and accepts amount
3. Merchant: Transaction completion including receipt printing.

Note: Mandatory for single unit terminals

## 3.57.0 - Single unit terminal - transaction result

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

When the transaction result is available for PIN and No CVM transactions, the terminal shall first display the result to the cardholder, and (after the terminal is handed over) then display the result to the merchant.

Note: Mandatory for single unit terminals.

## 3.58.0 - Single unit terminal - signature transactions

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

When the preliminary transaction result is available for signature transactions (before the cardholder signs the receipt, the terminal shall be handed over to the merchant, and the final part of the transaction processing/flow shall be controlled by the merchant.

## 3.59.0 - Terminal report

| Req. Type | Mandatory | Card Scheme | [Amex, Diners, Maestro, MC, Visa, Visa Electron] |
|-----------|-----------|-------------|--------------------------------------------------|
| Country | [All] | Term. Type | [All] |

Description

The solution must be able to either print or display the following data:

- Terminal software name and version
- EMV checksum
- PED name and version

## 3.60.0 - Application selection

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

If the solution supports cardholder selection, the cardholder should be presented with matching applications to choose from.

If not, the solution shall choose the application with the highest priority.

## 3.61.0 - Application selection - AID

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

If an AID supported by the ICC matches an AID selection record, then the AID shall be included in the candidate list.

## 3.62.0 - Error handling

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

If a failure is detected in any of the components/parts, the terminals shall end normal operation and, if possible, display the relevant error-message.

## 3.63.0 - Cardreader

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

If the terminal has a motorised or locking card reader, a mechanism to return the card shall exist, e.g. in the case of a power failure.

This mechanism could be a button for the cardholder to activate or could be implemented in a way that cards are automatically ejected when the terminal looses power.

## 3.64.0 - PIN

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

A PIN pad shall support entry of a four (4) to twelve (12) digits PIN.

## 3.65.0 - Single unit terminal

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

If the amount is entered on the same key pad as the PIN, the amount shall be validated before PIN entry is allowed.

## 3.66.0 - Cardholder display

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The cardholder display shall always react on a cardholder action, e.g. when the cardholder presses the Cancel button.

## 3.67.0 - Fallback - session management

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If the transaction is aborted due to incorrect handling (e.g. the card has been withdrawn from the card reader before completion of the transaction), chip technology keeps priority and fallback to magnetic stripe shall not be initiated.

Note: Fallback is not allowed for unattended solutions using NETS FI infrastructure.

## 3.68.0 - Fallback - non-debit-credit application

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Fallback is not allowed from a non-debit/credit application, like a loyalty application, to the debit/credit application on the magnetic stripe.

## 3.69.0 - Fallback - EMV cards

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

For EMV cards where the ICC is not readable, the fallback shall be the magnetic stripe, if allowed. If the magnetic stripe is also not readable, a key entered transaction may be initiated if allowed.

Note: Fallback is not allowed for unattended solutions using NETS FI infrastructure.

## 3.69.1 - Fallback - Card insertion

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The terminal shall attempt to retry reading the ICC 3 times prior to initialising a fallback transaction, e.g. by requiring the cardholder to insert/reinsert the card 3 times.

## 3.69.2 - Fallback - Card insertion question

| Req. Type | Optional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

When separate readers are utilized, the merchant shall confirm that the card is inserted correctly and that initiation of fallback is accepted.

## 3.70.0 - CVM - Signature

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [11, 12, 13, 21, 22, 23] |

Description

In order to fullfil certain card schemes' operating regulations, the terminal shall be able to accept a signature as CVM, if the terminal is attended.

## 3.71.0 - Refund

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [21, 22, 23] |

Description

The solution shall, if purchase or capture is supported, support refund or cancellation, as well.

## 3.72.0 - Refund - existing purchase-capture

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

It shall only be possible to perform refund, if there is an existing purchase/capture.

Note: This can also be implemented as a merchant business procedure.

## 3.73.0 - Refund - lock

| Req. Type | Optional | Card Scheme | [All] |
|-----------|----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The refund transaction shall be protected by a "lock" function to ensure that only authorised clerks will be able to initiate refund transactions.

## 3.74.0 - Report

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

A batch report shall be generated and the batch report shall include the necessary data for the merchant to perform an appropriate balancing between the batch reports and the settlement statements generated by the acquirer.

## 3.75.0 - Log - retention

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Entries in the log shall be retained for a minimum of 18 months.

## 3.76.0 - Log - transaction results

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

All transaction results shall be stored in the log, irrespective of the result.

## 3.77.0 - Log - plaintext print-out

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

It shall be possible to readily make a plaintext print-out or a copy of the log.

## 3.78.0 - Log - access

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Access to the log shall be protected in such a way that only authorised persons can see and/or print the log data.

## 3.79.0 - Semi-attended - self-checkout

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The self-checkout lane shall have a designated attendant readily for support and surveillance.

Note: A maximum of 6 terminals for each attendant.

## 3.80.0 - Semi-attended - magnetic stripe

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Magnetic stripe transactions above DKK 500 must be treated as face-to-face transactions, including signature validation and normal card security checks.

## 3.81.0 - Semi-attended - fallback

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If the semi-attended solution supports fallback, the fallback procedure must be verified and handled by the attendant.

## 3.82.0 - Semi-attended - log

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The solution must contain a log, showing the attendant actions, and only authorised personnel must have access to the functions.

## 3.83.0 - Semi-attended - floorlimit

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Semi-attended terminals must be online-only for magstripe transactions.

## 3.84.0 - Semi-attended/UPT - identification

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [DK] | Term. Type | [All] |

Description

All self-checkout terminals and UPT in terminals in general within a site/retailer outlet must be separately identified. Thes requires these terminals to be set up on a unique merchant number.

## 3.85.0 - Semi-attended - dialog

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The cardholder dialog shall be according to the dialog defined for UPT, except when the transaction is 'face-to-face'.

## 3.86.0 - Expired cards

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

An expired card must be sent online for validation, if online connectivity is possible.

Note: Expired cards shall be declined if online connectivity isn't possible.


## 3.87.0 - Original_aut

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The terminal shall ensure that an original_authorisation always is followed by either a capture or a authorisation reversal.


## 3.88.0 - Handling of Visa-Dankort

| Req. Type | Mandatory | Card Scheme | [Dankort, Visa] |
|-----------|-----------|-------------|-----------------|
| Country | [All] | Term. Type | [All] |

Description

For the co-branded Visa/Dankort, the solution shall handle the card as a Dankort in Denmark.

Note: Border trade may be handled different. Please contact NETS- Denmark for specific information.


## 3.89.0 - Handling of Visa-Dankort - terminal parameters

| Req. Type | Mandatory | Card Scheme | [Dankort] |
|-----------|-----------|-------------|-----------|
| Country | [All] | Term. Type | [All] |

Description

If the solution accepts Dankort, the terminal shall be capable of setting the terminal parameters specific for the handling of Dankort.

## 3.90.0 - Liability

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

| Description |
|---|
| Solutions supporting No CVM only shall have an individual acceptance from the acquirers and Nets Denmark A/S. |

## 3.91.0 - Issuer envelope data

| Req. Type | Optional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

| Description |
|---|
| The solution may support Issuer Envelope Data for all types of transactions. |

## 3.91.1 - Envelope data for Finland

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [FI] | Term. Type | [All] |

| Description |
|---|
| For solutions using the NETS FI infrastructure, the solution must forward following data: 6J (Terminal supplier), 6K (Terminal type) and 6R (Payment terminal type). |

## 3.92.0 - Account types

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [SE] | Term. Type | [All] |

| Description |
|---|
| The texts specifying the account types shall be "Bankkonto" (code = 20) and "Kortkredit" (code = 30). |

## 3.93.0 - Cashback

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [NO] | Term. Type | [All] |

| Description |
|---|
| It shall be possible to enable and disable the cashback functionality. |

## 3.94.0 - Reading a MSC

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The terminal shall, when reading a magnetic stripe, read track 2.

## 3.95.0 - Dead-lock

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The solution shall be able to resolve dead-lock situations, e.g. by implementing overall time-out mechanisms.

NOTE: If a failure is detected in any of the components/parts, the terminal shall end normal operation and, if possible, display the relevant error-message.

## 3.96.0 - ICC

| Req. Type | Conditional | Card Scheme | [BAX] |
|-----------|-------------|-------------|-------|
| Country | [NO] | Term. Type | [All] |

Description

The terminal shall, if a BAX application is mutual supported, always select this application, even if there are other applications on the card.

## 3.97.0 - Time-out

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The usual time-out value for waiting for at host-response shall be a time-out value of 30 seconds.

Note: For Norway, it shall be 40 seconds.

## 3.98.0 - Reversal advice

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [11, 12, 14, 15, 21, 22, 24, 25, 34, 35] |

Description

The terminal shall, when a reversal advice is generated, immediately send it to the host.

## 3.99.0 - Authorisation request response

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [NO] | Term. Type | [All] |

Description

The terminal shall, if the authorisation request response is successful, retrieve the balance available. The terminal shall, if a soft error and no balance is returned, use the amount from the authorisation request as the balance / amount available.

## 3.100.0 - Reconciliation

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

A reconciliation shall be intitiated at least once a day.

Note: This may be a merchant procedure.

## 3.101.0 - Reconciliation - attended

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [NO] | Term. Type | [11, 12, 13, 21, 22, 23] |

Description

There is, in the regional Norwegian market, a need for at consolidated reconciliation for all of the terminals at a merchant's site.

## 3.102.0 - Reconciliation - attended - operator function

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [NO] | Term. Type | [11, 12, 13, 21, 22, 23] |

| Description |
|-------------|
| An attended terminal shall have an operator function to request the generation and reporting of a consolidated reconciliation. |

## 3.103.0 - Reconciliation - unattended terminal

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [14, 15, 16, 24, 25, 26, 34, 35, 36] |

| Description |
|-------------|
| An unattended terminal may have an automated feature to request the generation and reporting of a consolidated reconciliation. |

## 3.104.0 - Reconciliation - indicator

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [NO] | Term. Type | [All] |

| Description |
|-------------|
| The terminal shall use the reconciliation indicator from the reconciliation request response when requesting the (most recent) report. |

## 3.105.0 - Offline amount limit - Dankort

| Req. Type | Mandatory | Card Scheme | [Dankort] |
|-----------|-----------|-------------|-----------|
| Country | [DK] | Term. Type | [All] |

| Description |
|-------------|
| For offline transactions, the terminal shall have a limit of 100.000 DKK, when the dankort is used. |

## 3.106.0 - Power failure

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| The terminal shall not lose data due to power failure |

# 4 Communication

## 4.1.0 - Load balancing

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Nets has established two identical platforms. Each platform has its own set of communication lines to the external networks. In normal situations the solution shall consider an equal load on both platforms.

The solution must be able to initiate a connection to the second platform, if a request for connect fails while trying to connect to the first platform.

## 4.2.0 - Fallback rate

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Fallback rate from ICC to magstripe in production must not exceed the limit provided from VISA every year.

Note: The actual limit can be found on www.nets.eu

## 4.3.0 - Transaction processing time

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Processing time for a transaction must not exceed 10 seconds after cardholder has approved - regardless of technology and online activities. For terminals using mobile connection the transaction time limit is 13 seconds.

## 4.4.0 - Terminal numbering

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Terminal numbers on the same merchant must be unique.

## 4.5.0 - Reading of magstripe

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| It shall be verified, that the magstripe is read correctly by performing check of LRC. |

## 4.6.0 - Advice transfer

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| An advice transfer shall be initiated at least once a day. |

# 5  Physical HW requirements

## 5.1.0 - Keytops

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| When the terminal is placed as intended, the keytops on the PIN entry device shall point in direction of the cardholder's eyes. |

## 5.2.0 - PIN Entry Device

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

| Description |
|-------------|
| The top of the PIN entry device visible from the outside of the terminal should prevent that a tapping device could be fixed or just "clicked" to the top. |

## 5.3.0 - Screws or nuts

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

to make sure that unauthorised access to the PIN entry device from the interior of the terminal will be detected, the screws or nuts by which the PIN entry device is fixed shall e.g. be sealed.

## 5.4.0 - Position of terminal

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [24, 25, 26] |

Description

When the terminal is installed in the environment where it is going to be used, the position of the terminal shall guarantee a high level of comfort for the cardholder, including the possibility to get close to the terminal.

The position of the terminal in relationship with the cardholder's working position shall also ensure that no transaction data can be disclosed, e.g. by shoulder surfing.

## 5.5.0 - PINPAD - Management and security

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

All systems and equipment shall comply with the requirements for PIN management and security as defined in ref. 13: "ISO 9564-1", Banking - Personal Identification Number management and security.

## 5.6.0 - PINPAD Penetration

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Penetration of the PIN pad shall cause the automatic and immediate erasure of all PINs, cryptographic keys and all useful residue of PINs and keys contained within the device.

## 5.7.0 - PINPAD - transmission of plaintext

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Transmission of the plaintext PIN from the PIN pad keyboard to the processor where it will be enciphered shall take place within the physical boundaries of the PIN pad.

## 5.8.0 - PINPAD - internal circuits and connections

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

All internal circuits and connections within the PIN pad shall be highly physically protected and thereby prevent tapping.

## 5.9.0 - PINPAD - attacks

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The PIN pad shall resist state-of-the-art attacks, such as static and differential power analysis (SPA/DPA), Bellcore attacks and Timing attacks.

## 5.10.0 - PINPAD - enciphering

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The PIN shall be enciphered within the secure cryptographic device immediately after the ENTER key has been pressed.

## 5.11.0 - PINPAD - design

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The software shall be designed in such a way that its intended functions cannot be misused or circumvented from the outside world.

# 5.12.0 - PINPAD - loading

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The PIN pad shall not be operational until the PIN pad ID and related keys have been loaded.

Note: Different keys for production and test enviroment must be used.

# 5.13.0 - PINPAD - critical functions

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Critical functions only allowed to be initiated by the terminal supplier shall be protected by a "technician lock" function.

Implementation of the "Technician lock" function is manufacturer specific and may be based on a physical lock, password/PIN and/or special cards.

# 5.14.0 - PINPAD - Technician lock

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

The "Technician lock" function shall be managed by the terminal supplier and the "technician lock" function shall allow only the terminal supplier's authorised personnel to initiate the protected functions.

# 5.15.0 - PINPAD - copies of key

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

If the "key" to the "technician lock" is common for terminals installed at several Merchants, only the terminal supplier shall be able to produce "copies" of the "key".

## 5.16.0 - Protection of equipment

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [14, 15, 16, 24, 25, 26, 34, 35, 36] |

| Description |
|---|
| Access to the inside of an unattended device must be administratively limited. |

# 6  Receipts - print

## 6.1.0 - Total Report

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

| Description |
|---|
| Generally the solution shall be able to generate a total report. This report shall include the data necessary for the merchant to perform an appropriate balancing between the solution and the settlement statements generated by the acquirers. |

## 6.2.0 - Batch No.

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

| Description |
|---|
| Each transaction initiated shall belong to a batch No. The batch No. must be unique for the merchant within one year. |

## 6.3.0 - Receipt - cardholder

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

| Description |
|---|
| The cardholder shall be able to get a receipt when that cardholder has accepted the transaction, irrespectively of the result. Note: The cardholder may accept, that no receipt is printed. |

## 6.3.1 - Receipt - Reference number

| Req. Type | Mandatory | Card Scheme | [Dankort] |
|-----------|-----------|-------------|-----------|
| Country   | [DK]      | Term. Type  | [All]     |

Description

The reference number on the receipt must be the same that NETS forwards to the banks.

## 6.4.0 - Receipt - Pin retry - Mag. stripe

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country   | [All]     | Term. Type  | [All] |

Description

If the PIN has been online validated with magstripe technology, a receipt shall be printed for either all PIN entries - or only the last entry.

## 6.5.0 - Receipt - Signature based transaction

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country   | [All]     | Term. Type  | [All] |

Description

When a transaction is signature based, two receipts shall be printed. One to be signed by the cardholder and kept by the merchant, and one to be handed over to the cardholder.

## 6.6.0 - Receipt - Signature based transaction - Two receipts

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country   | [All]     | Term. Type  | [All] |

Description

If two receipts are printed, it must be clearly stated, whether it is cardholder copy or merchant copy.

## 6.7.0 - Cancellation

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country   | [All]     | Term. Type  | [All] |

Description

The terminal shall generate a cancellation receipt when the cancellation transaction is successful. The  cancellation receipt shall contain all of the content of the original receipt.

Note: The receipt shall contain a "Cancellation indicator" as well.

## 6.8.0 - Cancellation - exception

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The terminal shall not generate any receipt, if the cancellation of the transaction fails.


## 6.9.0 - Account type selection

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The cardholder's choice of account type shall be printed on the receipt.


## 6.10.0 - Cash back

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

The receipt shall contain the cash back amount.


## 6.11.0 - Acquirer information

| Req. Type | Mandatory | Card Scheme | [All] |
|-----------|-----------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Acquirer name/No. must be printed on the receipt.


## 6.12.0 - Prepaid

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

Account balance and expiry date for prepaid card must be printed on receipt.

## 6.13.0 - Printer error

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

When there is a failure in the printer, the solution shall not be able to perform additional transactions, unless an error message is displayed, and the cardholder has been informed/accepted to continue without printing of a receipt.

## 6.14.0 - Receipt

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

It shall be clearly stated on the receipt, which transaction type was performed e.g. cancellation, reversal, refund etc.

## 6.15.0 - Receipt - pre-authorisation receipt

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

It shall be clearly stated with a text "Authorisation only" on a pre-authorisation receipt.

## 6.16.0 - UPT - Receipt error

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [14, 15, 16, 24, 25, 26, 34, 35, 36] |

Description

For an unattended terminal, the cardholder shall, prior to starting a transaction, be informed if no receipt can be printed.

## 6.17.0 - UPT - Receipt selection

| Req. Type | Mandatory | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [14, 15, 16, 24, 25, 26, 34, 35, 36] |

Description

For an unattended terminal, the cardholder shall be able to select wether or not a receipts is to be printed.

Note: the default value shall be that no receipt is printed

# 7 Receipts - examples

## 7.1.0 - Basic Chip & PIN Template

| Req. Type | Conditional | Card Scheme | [] |
|-----------|-------------|-------------|-----|
| Country | [All] | Term. Type | [All] |

Description

Approved Example.

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| PURCHASE   EUR   XXXX,XX | Mandatory |
| VAT      EUR   XXXX,XX | Conditional |
| CASHBACK   EUR   XXXX,XX | Conditional |
| SURCHARGE EUR   XXXX,XX | Conditional |
| TIPS     EUR   XXXX,XX | Conditional |
|         --------- | |
| TOTAL    EUR   XXXX,XX | Mandatory |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:    1F2G3H4I-123456 | Mandatory |
| Aquirer name/number | Mandatory, Print the relevant acquirer name or number |
| IA1   ME.NO:  1234567890 | Mandatory |
| ATC:12345   AED: 061224 | Optional |
| AID:    1234567890ABCDEF | Mandatory |

| | |
|---|---|
| ARC:AB   AUT CODE:1A2B3C | Mandatory |
| REF:123456    AUTHORIZED | Mandatory |

Declined Example.

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| PURCHASE   EUR   XXXX,XX | Mandatory |
| VAT       EUR   XXXX,XX | Conditional |
| CASHBACK   EUR   XXXX,XX | Conditional |
| SURCHARGE EUR   XXXX,XX | Conditional |
| TIPS      EUR   XXXX,XX | Conditional |
|          --------- | |
| TOTAL    EUR   XXXX,XX | Conditional |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:    1F2G3H4I-123456 | Mandatory |
| Aquirer name/number | Mandatory, Print the relevant acquirer name or number |
| IA1   ME.NO:  1234567890 | Mandatory |
| ATC:12345    AED: 061224 | Optional |
| AID:    1234567890ABCDEF | Mandatory |
| ARC:AB   AUT CODE: | Mandatory |
| REF:123456     DECLINED | Mandatory |
| TVR: 1234567890 TSI:1234 | Mandatory |

## 7.2.0 - Basic Chip & Signature Template

| Req. Type | Conditional | Card Scheme | [All] |
|---|---|---|---|
| Country | [All] | Term. Type | [All] |

Description

Approved Example:

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:     1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| PURCHASE   EUR   XXXX,XX | Mandatory |
| VAT        EUR   XXXX,XX | Conditional |
| CASHBACK   EUR   XXXX,XX | Conditional |
| SURCHARGE  EUR   XXXX,XX | Conditional |
| TIPS       EUR   XXXX,XX | Conditional |
|         --------- | |
| TOTAL      EUR   XXXX,XX | Mandatory |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:    1F2G3H4I-123456 | Mandatory |
| Aquirer name/number | Mandatory, Print the relevant acquirer name or number |
| | |
| CARDHOLDER'S SIGNATURE: | Mandatory |

| | |
|---|---|
| | |
| | |
| ....................... | Mandatory |
| | |
| I@1  ME.NO:  1234567890 | Mandatory |
| ATC:12345    AED: 061224 | Optional |
| AID:    1234567890ABCDEF | Mandatory |
| ARC:AB   AUT CODE:1A2B3C | Mandatory |
| REF:123456    AUTHORIZED | Mandatory |
| MERCHANT COPY | Mandatory |

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| PURCHASE   EUR   XXXX,XX | Mandatory |
| VAT       EUR   XXXX,XX | Conditional |
| CASHBACK   EUR   XXXX,XX | Conditional |
| SURCHARGE EUR   XXXX,XX | Conditional |
| TIPS     EUR   XXXX,XX | Conditional |
|        --------- | |
| TOTAL    EUR   XXXX,XX | Conditional |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:    1F2G3H4I-123456 | Mandatory |

| | |
|---|---|
| Aquirer name/number | Mandatory, Print the relevant acquirer name or number |
| I@1   ME.NO:  1234567890 | Mandatory |
| ATC:12345    AED: 061224 | Optional |
| AID:    1234567890ABCDEF | Mandatory |
| ARC:AB   AUT CODE:1A2B3C | Mandatory |
| REF:123456    AUTHORIZED | Mandatory |
| CARDHOLDER COPY | Mandatory |

Declined:

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| PURCHASE  EUR   XXXX,XX | Mandatory |
| VAT       EUR   XXXX,XX | Conditional |
| CASHBACK  EUR   XXXX,XX | Conditional |
| SURCHARGE EUR   XXXX,XX | Conditional |
| TIPS      EUR   XXXX,XX | Conditional |
|         --------- | |
| TOTAL    EUR   XXXX,XX | Mandatory |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:    1F2G3H4I-123456 | Mandatory |

| | |
|---|---|
| Aquirer name/number | Mandatory, Print the relevant acquirer name or number |
| I@1   ME.NO:  1234567890 | Mandatory |
| ATC:12345    AED: 061224 | Optional |
| AID:    1234567890ABCDEF | Mandatory |
| ARC:AB   AUT CODE: | Mandatory |
| REF:123456      DECLINED | Mandatory |
| TVR: 1234567890 TSI:1234 | Mandatory |
| CARDHOLDER COPY | Mandatory |

## 7.3.0 - Basic Chip & DCC

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

```
Basic CHIP & DCC

Pre-receipt Example:
```

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45)44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| *********************** | |
| PRELIMINARY | Mandatory |
| THIS IS NOT A RECEIPT | Mandatory |
| *********************** | |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| YOU HAVE THE CHOICE OF | Mandatory |
| PAYING YOUR BILL IN | Mandatory |
| EITHER 'EUR' OR 'USD' | Mandatory |
| | |
| PURCHASE   EUR   XXXX,XX | Mandatory |
| VAT        EUR   XXXX,XX | Conditional |
| CASHBACK   EUR   XXXX,XX | Conditional |
| SURCHARGE EUR   XXXX,XX | Conditional |
| TIPS       EUR   XXXX,XX | Conditional |
|         --------- | |
| TOTAL      EUR   XXXX,XX | Mandatory |

| | |
|---|---|
| | |
| Or | Mandatory |
| | |
| PURCHASE   USD   XXXX,XX | Mandatory |
| VAT       USD   XXXX,XX | Conditional |
| CASHBACK   USD   XXXX,XX | Conditional |
| SURCHARGE USD   XXXX,XX | Conditional |
| TIPS      USD   XXXX,XX | Conditional |
|           --------- | |
| TOTAL     USD   XXXX,XX | Mandatory |
| | |
| | |
| NOTIFY THE STAFF OF YOUR | Mandatory |
| CHOICE OF BILLING | Mandatory |
| CURRENCY. | Mandatory |
| THE CHOICE IS FINAL. | Mandatory |
| | |
| THE GUARANTEED EXCHANGE | Mandatory(Payment=GURARANTEED/Authorisation=REFERENCE) |
| RATE IS BASED ON 'Rate | Mandatory |
| provider' RATE, INCLU- | Mandatory |
| SIVE MARK UP: 0,134078 | Mandatory |

## 7.4.0 - DCC Purchase

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

approved example:

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| PURCHASE   EUR   XXXX,XX | Mandatory |
| VAT        EUR   XXXX,XX | Conditional |
| CASHBACK   EUR   XXXX,XX | Conditional |
| SURCHARGE EUR   XXXX,XX | Conditional |
| TIPS      EUR   XXXX,XX | Conditional |
|         --------- | |
| TOTAL    EUR   XXXX,XX | Mandatory |
| | |
| EXCHANGE RATE BASED ON | Mandatory |
| 'Rate provider' RATE | Mandatory |
| AT 2008-06-06: | Mandatory |
| EXCHANGE RATE: 0,123456 | Mandatory |
| MARK UP ON | Mandatory |
| EXCHANGE RATE: 0,003704 | Mandatory |
| THIS CURRENCY CONVERSION | Mandatory |
| SERVICE IS PROVIDED BY | Mandatory |
| Aquirer name/number | Mandatory |

| | |
|---|---|
| TRANSACTION CURRENCY | Mandatory |
| | |
| PURCHASE   USD   XXXX,XX | Mandatory |
|        --------- | |
| TOTAL    USD   XXXX,XX | Mandatory |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:    1F2G3H4I-123456 | Mandatory |
| Aquirer name/number | Mandatory |
| I@1   ME.NO:  1234567890 | Mandatory |
| I ACCEPT THAT | Mandatory |
| NETS - TESTSHOP | Mandatory |
| HAS OFFERED ME A CHOICE | Mandatory |
| OF CURRENCIES FOR | Mandatory |
| PAYMENT & THIS CHOICE IS | Mandatory |
| FINAL. | Mandatory |
| I ACCEPT THE CONVERSION | Mandatory |
| RATE & FINAL AMOUNT. | Mandatory |
| IN 'USD' | Mandatory |
| ATC:12345   AED: 061224 | Optional |
| AID:   1234567890ABCDEF | Mandatory |
| ARC:AB   AUT CODE:123456 | Mandatory |
| REF:123456    AUTHORIZED | |

## 7.5.0 - Refund

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| REFUND    EUR   XXXX,XX | Mandatory |
|         --------- | |
| TOTAL    EUR   XXXX,XX | Mandatory |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:    1F2G3H4I-123456 | Mandatory |
| Aquirer name/number | Mandatory |
| I@5   ME.NO:  1234567890 | Mandatory |
| MERCHANT'S SIGNATURE: | Mandatory |
| | |
| ...................... | Mandatory |
| | |
| ATC:12345    AED: 061224 | Optional |
| AID:    1234567890ABCDEF | Mandatory |
| ARC:AB   AUT CODE:1A2B3C | Mandatory |
| REF:123456    AUTHORIZED | Mandatory |

| | |
|---|---|
| CARDHOLDER COPY | Mandatory |

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| REFUND    EUR   XXXX,XX | Mandatory |
|         --------- | |
| TOTAL    EUR    XXXX,XX | Mandatory |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:    1F2G3H4I-123456 | Mandatory |
| Aquirer name/number | Mandatory |
| I@5   ME.NO:  1234567890 | Mandatory |
| ATC:12345    AED: 061224 | Optional |
| AID:    1234567890ABCDEF | Mandatory |
| ARC:AB   AUT CODE:1A2B3C | Mandatory |
| REF:123456    AUTHORIZED | Mandatory |
| MERCHANT COPY | Mandatory |

## 7.6.0 - Cash

| Req. Type | Conditional | Card Scheme | [All] |
|-----------|-------------|-------------|-------|
| Country | [All] | Term. Type | [All] |

Description

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| 2750 Ballerup | Mandatory |
| Phone: (+45) 44 68 44 68 | Mandatory |
| Bus.Reg.No:    1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| CASH    EUR   XXXX,XX | Mandatory |
|        --------- | |
| TOTAL    EUR   XXXX,XX | Mandatory |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| TERM:   1F2G3H4I-123456 | Mandatory |
| Aquirer name/number | Mandatory |
| I@5  ME.NO:  1234567890 | Mandatory |
| | |
| PRINTED DIGITS: ........ | Mandatory |
| IDENTIFICATION: | Mandatory |
| (PASSPORT ETC:) | Mandatory |
| | |
| ..................... | Mandatory |
| | |
| JURISDICTION OF ISSUE: | Mandatory |

| | |
|---|---|
| ........................ | Mandatory |
| | |
| ID EXPIRY DATE: ........ | Mandatory |
| | |
| CLERK ID: .............. | Mandatory |
| | |
| CARDHOLDER'S SIGNATURE: | Mandatory |
| | |
| ........................ | Mandatory |
| | |
| ATC:12345    AED: 061224 | Optional |
| AID:    1234567890ABCDEF | Mandatory |
| ARC:AB   AUT CODE:1A2B3C | Mandatory |
| REF:123456    AUTHORIZED | Mandatory |

## 7.7.0 - ATM

| Req. Type<br>Country | Conditional<br>[All] | Card Scheme<br>Term. Type | [All]<br>[All] |
|---|---|---|---|

| Description | |
|---|---|
| WITHDRAWAL | |

| | |
|---|---|
| NETS – TESTSHOP | Mandatory |
| Lautrupbjerg 10 | Mandatory |
| DK-2750 Ballerup | Mandatory |
| Phone: (+45)44 68 44 68 | Mandatory |
| Bus.Reg.No:  1234567890 | Mandatory |
| | |
| 2008-04-23 13:04 | Mandatory |
| | |
| WITHDRAWAL EUR  XXXX,XX | Mandatory |
|         --------- | |
| TOTAL     EUR  XXXX,XX | Mandatory |
| | |
| MASTERCARD GOLD | Mandatory |
| XXXX XXXX XXXX XXX5 678 | Mandatory |
| CREDIT TRANSACTION<br>TERM:      XXXX-XXXX | Mandatory |
| | Mandatory |
| IA1  ME.NO: 1234567890 | Mandatory |
| ATC:12345   AED: 061224 | Optional |
| AID:   1234567890ABCDEF | Mandatory |
| ARC:AB  AUT CODE:1A2B3C | Mandatory |
| REF:123456   AUTHORIZED | Mandatory |