



# Bill Payment Issuer Upload File Specification

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# 1. Revision History

Date	Version	Description	Author
2023-06-02	3.0	Initial draft	Marinus Swanepoel

## 2. Introduction

### 2.1. Purpose

This document describes the format and generation process of the Pay@ issuer upload file for bill payments. The intended audience is a bill payment issuer that is integrating/integrated with Pay@.

### 2.2. Overview

The upload file is generated by Pay@ after midnight and contains all transactions that were **finalized** on the previous day.

For direct settlement please refer to the [direct settlement](#) appendix for more information.



This file may contain transactions that were started more than a day ago, but were only finalized on the transaction day pertaining to this file.

### 2.3. Definitions, Acronyms, and Abbreviations

#### Finalized

Used to refer to a transaction that is in a final state. This means that Pay@ has received the transaction *completion* or *void* via online message, or the transaction has been reconciled offline with the transaction originator.

#### Network

The network of transaction points where a transaction can occur. Typically a retailer, bank website, smartphone app, etc.

#### SFTP

SSH File Transfer protocol. A protocol for secure file transfer by encrypting information sent using SSH.

#### SSH Keys

Cryptographically secure keys that can be used to authenticate a client on an SSH server. Each key pair consists of a public key and a private key.

#### Whitelisting

Identifying sources that are considered trustworthy, and allowing them access to certain resources.

## 3. File Naming

The file name will be structured as follows:

**EXTRACT-BILLPAY-nnnnn-YYYYMMDD.csv**

Where:

- **nnnnn** is the issuer account prefix. Pay@ supplies this value.
- **YYYYMMDD** is the transaction finalization date.

## 4. File Access

The file will be made available on the Pay@ SFTP site. Refer to the [SFTP](#) appendix for more information.



It is the responsibility of the issuer to retrieve the upload file from Pay@'s SFTP site.

## 5. File Format

The file contains one header record.

The header record is followed by data records. There may be no data records if no transactions completed on the previous day.

The last record is a trailer record.

Each record is pipe-separated.

All fields are described using the following scheme:

Type	Description	ASCII code range (decimal)
a	Alphabet characters [a-zA-Z]	65-90 ( <a href="#">A-Z</a> ) 97-122 ( <a href="#">a-z</a> )
n	Numeric	48-57 ( <a href="#">0-9</a> )
s	Special characters	32-47 58-64 91-96 123-126
as	Alpha and special characters	See a and s ranges
ans	Alphanumeric and special characters	See a, n, and s ranges
ns	Numeric and special characters	See n and s ranges
decimal	A decimal amount, including up to 9 decimal places. The decimal separator is a dot, e.g. <a href="#">599.3456</a>	46 (.) 48-57 ( <a href="#">0-9</a> )
date-time	A date-time with an offset from UTC/Greenwich in the ISO-8601 calendar system, e.g. 2018-07-03T12:31:55.740Z, 1999-12-31T23:59:59+02:00	

## 5.1. Header Record

The format of the header record is as follows:

Field Name	Description	Type	Value / Example
Record Type	Denotes the record as a header record.	a1	H
Issuer Prefix	The issuer prefix as assigned by Pay@.	an	11399
File Open Time	The timestamp when the file was created.	date-time	2023-06-06T01:59:59+02:00

Sample record:

H|11399|2023-06-06T01:59:59+02:00

## 5.2. Data Record

The format of the data record is as follows:

Field Name	Description	Type	Value/Example
Record Type	Denotes the record as a detail record	a1	D
Transaction ID	The Pay@ unique transaction ID.	ans..255	123456879
Payment Account Number	The account number is the full Pay@ account number (including the Pay@ prefix) use to make the payment.	ans..255	1139988897
Customer Account ID	Uniquely identifies the customer or the customer's account on the issuer's system.	ans..255	88897
Issuer Transaction ID	An ID that uniquely identifies the transaction on the issuer system.	ans..255	30809982-ae7c-4ad8-8534-6cbc40d39dc9
Payment Date Time	The date and time the transaction was initiated. A date-time with an offset from UTC/Greenwich in the ISO-8601 calendar system.	date-time	1999-12-31T23:59:59+02:00
Finalized Date Time	The date and time the transaction was finalized. A date-time with an offset from UTC/Greenwich in the ISO-8601 calendar system.	date-time	2000-01-01T23:59:59+02:00
Transaction Amount	The amount of the transaction.	decimal	2100.000000
Total Fee	The total transaction fee incurred by the transaction.	decimal	6.123456

Field Name	Description	Type	Value/Example
Settlement Amount	The transaction amount with all the fees deducted.	decimal	2093.876544
Tender Type	The tender the transaction was paid with. Pay@ occasionally adds new tender types and all new tender types should be accepted.	ans..255	CASH
Network ID	Uniquely identifies a network on the Pay@ system.	ans..255	10329
Network Name	The name of the network where the transaction was initiated. This field can change at any point without prior notification	ans..255	Test Network
Transaction Status	An indicator of whether the authorized transaction was completed or voided.	ans..255	Valid values are: - PAID - CANCELLED - REVERSED

Sample record:

```
D|123456879|1139988897|88897|30809982-ae7c-4ad8-8534-6cbc40d39dc9|1999-12-31T23:59:59+02:00|2000-01-01T23:59:59+02:00|2100.000000|6.123456|2093.876544|CASH|10329|Test Network|PAID
```

## 5.3. Trailer Record

The format of the trailer record is as follows:

Field Name	Description	Type	Value/Example
Record Type	Denotes the record as a trailer record.	a1	T
Record Count	The total number of records in the file, including the header and trailer records.	n	15
Total Amount	The sum of the amount field in the data records.	decimal	45623.2145879
File Close Time	The date the file was closed	date-time	2023-06-06T01:59:59+02:00

Sample record:

T|6|45623.2145879|2023-06-06T01:59:59+02:00

## 6. Sample File

H|11399|2023-06-06T01:59:59+02:00

D|123456879|1139988897|88897|30809982-ae7c-4ad8-8534-6cbc40d39dc9|2023-06-04T23:59:59+02:00|2023-06-05T23:59:59+02:00|2100.00000|6.123456|2093.876544|CASH|10329|Test Network|PAID

D|123456879|1139988896|88897|30809982-ae7c-4ad8-8534-6cbc40d39dc9|2023-06-05T13:59:59+02:00|2023-06-05T14:00:59+02:00|100.00000|6.123456|93.876544|CASH|10329|Test Network|PAID

T|5|3300.00000|2023-06-06T02:05:59+02:00

## Appendix A: SFTP

An SFTP account will be created on the Pay@ SFTP site for the client.

Pay@ supplies the following when setting up a client SFTP account:

- The Pay@ SFTP URL.
- The Pay@ SSH public key.
- An account login name for the client.

Pay@ requires the following from a client when setting up an account:

- The client's SSH public key.
- A list of IP addresses (or IP address ranges) from which the client will access Pay@'s SFTP site. Pay@ will whitelist these addresses on the SFTP server. This step only applies to static IP addresses (or static IP address ranges).

## Appendix B: Direct Settlement

Direct settlement is when an agreement has been put in place that a network directly settles the issuer for the transactions completed and Pay@ is only responsible for recording the transactions and collecting transaction fees.

A network can directly settle an issuer in the following ways:

- A payment via a banking application/web portal.
- A cash deposit via a bank.
- A bulk payment using a Pay@ reference number for the issuer at any participating network.

For these transactions a separate reconciliation file will be generated in the same format as the upload file, with minor differences, as follows:

## B.1. File Naming

The file name will be structured as follows:

UPLOAD-DIRECT-SETTLE-nnnnn-YYYYMMDD.csv

Where:

- **nnnnn** is the issuer account prefix. Pay@ supplies this value.
- **YYYYMMDD** is the transaction finalization date.

Sample file name: **UPLOAD-DIRECT-SETTLE-11399-20210412.csv**

## B.2. Data Record

The format of the data record with differences are:

Field Name	Description	Type	Value/Example
MerchantFee(CardFee)	The fee charged by the bank for card transactions. No merchant fees are charged, so the value will be zero.	decimal	0.00
CashHandlingFee	The fee charged for cash transactions. No cash handling fees are charged, so the value will be zero.	decimal	0.00
SettlementAmount	The transaction fee, represented as a negative amount to indicate that this is owed to Pay@.	decimal	-6.123456789

Sample record:

D|13|B1234|113991234566799|2012-09-18 13:55:55|100.00|4.00|**0.00**|**0.00**|  
**-4.00**|CreditCard|SampleNetwork|SC0918135554|1234|15|1