



TECHNICAL SPECIFICATION
EasyPay Bill Payment Output Files
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Document approval			
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1. INTRODUCTION

1.1 Purpose

The purpose of this document is to describe the layout of the EasyPay Bill Payment Output files.

1.2 Scope

This document describes the layout of the EasyPay Bill Payment Output files.

1.3 Definitions, Acronyms and Abbreviations

Term	Definition
BPS	Bill Payment Server
Collector	The retail agent that accepts a bill payment on behalf of a Receiver and forwards the payment details to EasyPay
CRN	Customer Reference Number
Customer	The bill payer (the public)
EasyPay Number	The "account number" printed on the bill, captured by the pos and reconciled by the receiver. Please see reference document 1
GLN	EAN Global Location Number
Interim File	A receiver file that is produced periodically from the online server that contains a record of transactions that occurred since the last interim file was produced.
Payment	The amount of money to be credited to a particular receiver account
Output File	See SOF file
POS	Point-of-sale or point-of-service
Receiver	The issuer of a bill or account for which payment is required (e.g., a utility company)
SIF File	Standard Input File
SOF File	Standard Output File
Tender	The method of payment, e.g., cash, cheque or credit card

1.4 References

This specification makes reference to the following documents.

Document Number	Title
1	EasyPay Number Specification BPS_PR-E1-0544v1.2.docx

1.5 Overview

An EasyPay Output file contains the payment data for bills that have been settled by the EasyPay System. The file is created by the EasyPay Batch System from data captured by Collectors, and sent to the relevant Receivers on a daily basis.

Historically, there have been four types of output files:

- The SOF format
- The EDI format
- The FRL format
- The “old” format.

Although all four of these formats are currently in use only the SOF and FRL formats will be allowed for new Receivers. The SOF is a CSV file while FRL is a fixed record length format. The format a receiver chooses depends on which they find easier to import into their systems.

2. THE SOF FORMAT

Every SOF contains a header record, a number of transactions, payment and tender records, and a trailer record. Records are terminated with a carriage return while individual fields are separated by commas.

2.1.1 Header Record

The first field identifies the file as being a SOF. The current version number is 1. The Receiver identifier indicates which Receiver the file will be sent to. The date and time indicate when the file was generated. The file generation number serves to prevent SOFs from being processed more than once or out of sequence.

The header contains a file generation number which will start at 1 and be incremented for each file generated. It is very important that this number be checked to prevent duplicate files and to detect missing files. The trailer must also be checked in order to determine whether the file is complete.

2.1.2 Transaction Record

This record indicates the Collector, date, time and point-of-service where a transaction took place. The records between individual transaction records are those payments and tenders that took place within a specific transaction. The optional trace field contains any extra data which may be useful in further describing and tracing a transaction

2.1.3 Payment Record

The payment record contains data about the amount of a payment, the fee for the payment and the EasyPay number.

2.1.4 Tender Record

Contains data about the amount of tender offered for a payment that took place within the same transaction. The cost of processing the tender is typically used for CreditCard, Cash and EFT types of tenders, where the type is as indicated in the next field. The account number is optional and generally only used for non-cash tenders.

2.1.5 Trailer Record

This last record contains the total number, cost and value of payment and tender records. It serves as a check to ensure that the file has not been tampered with by changing amounts and/or deleting entire records and it also serves as totals for reconciliation purposes.

2.2 Field Types

The allowable field types are defined in the following table.

Field Type	Description	Valid	Invalid
Alpha	Alphabetic characters	a,abc,XYZ,aZByC	a , z,a1,x y,123,~!@
Numeric	Digits 0 to 9	123,0,9876	1a,1 2 3,\$%&
AlphaNumeric	Alpha and/or Numeric	a,1,a1,Xy9	a , 1,*+=
Date	8-digit numeric YYYYMMDD >= 19000000	19960401,20000101	960401,29Feb,96-04-01
Time	6-digit numeric HHMMSS < 240000	093000,153559,000001	9:30am,93000,1pm,16h00
Money	[~]n-digit.2-digit Right-justified Left-padded with spaces	10.00,1.99,0.00,-2.56	R123,45c,.95,\$1.50,-1.99

2.3 Record Definitions

2.3.1 Header Record

No	Field Name	Type	Length	Description
1	File Identifier	AlphaNumeric	3	SOF
2	Version	Numeric	1	
3	Receiver Identifier	Numeric	1 – 16	
4	Date	Date	8	
5	Time	Time	6	
6	File Generation Number	Numeric	1 - 9	

2.3.2 Transaction Record

No	Field Name	Type	Length	Description
1	Identifier	Alpha	1	X
2	Collector Identifier	Numeric	1 - 16	
3	Date	Date	8	
4	Time	Time	6	
5	Point of Service	AlphaNumeric	1 – 8	
6	Trace	AlphaNumeric	1 – 20	[Optional]

2.3.3 Payment Record

No	Field Name	Type	Length	Description
1	Identifier	Alpha	1	P
2	Amount	Money	10	
3	Fee	Money	10	
4	EasyPay No	Numeric	1 - 48	

2.3.4 Tender Record

No	Field Name	Type	Length	Description
1	Identifier	Alpha	1	T
2	Amount	Money	10	
3	Bank Cost	Money	10	
4	Tender Type	AlphaNumeric	1 - 12	Cash Cheque

				CreditCard EFT (This refers to an ATM or Debit Card.) Round (This refers to rounding in the customers favour.) Other
5	Account Number / PAN	AlphaNumeric	1 - 32	Cash: not used for cash tenders Cheque: cheque account number or cheque number CreditCard: credit card PAN CreditEFT: credit card PAN EFT: debit/ATM card PAN Other: Optional

2.3.5 Trailer Record

No	Field Name	Type	Length	Description
1	Number of Payments	Numeric	1 – 20	
2	Value of Payments	Money	1 – 20	
3	Value of Fees	Money	1 – 20	
4	Number of Tenders	Numeric	1 – 20	
5	Value of Tenders	Money	1 – 20	
6	Value of Bank Costs	Money	1 – 20	

2.4 Examples

```

SOF,1,1500,19970519,112904,1
X,006001007031161,19960101,150000,1
P, 500.00, 1.50,915001641942488
T, 500.00, 0.00,Cash
X,006001007032050,19960103,111500,1,TRACEDATA
P, 200.00, 1.50,915002793961466
T, 200.00, 5.00,CreditCard,4
2,700.00,3.00,2,700.00,5.00

```


SOF,1,1510,19970519,112904,1
X,006001007032050,19960103,142016,66
P, 300.00, 1.50,915100011432102
T, 300.00, 0.00,CreditEFT,49104384745747
X,006001007031161,19960101,150000,1,JNL0012
CSHR0003
P, 400.00, 1.50,915100014270509
T, 400.00, 0.00,Cash
X,006001007032050,19960103,142016,66
P, 200.00, 1.50,915100014807698
T, 200.00, 0.00,Cheque,6666666666
3,900.00,4.50,3,900.00,0.00

SOF,1,1600,19970519,112904,1
X,006001007006000,19960104,113556,2,MTX311
R6705I001C0006
P, 200.00, 2.00,916006000022314009
T, 200.00, 0.00,Cash
X,006001007006000,19960104,143014,123
P, 250.00, 2.00,916006000065533044
T, 250.00, 0.00,Cash
2,450.00,4.00,2,450.00,0.00

SOF,1,2020,19970519,112904,1
X,006001007032050,19960103,120030,1
P, 500.00, 2.30,9202012019235945
T, 100.00, 0.00,Cash
T, 200.00, 0.00,Cheque,55555555555555
T, 200.00, 0.00,EFT,55555555555555
X,006001007032050,19960103,142016,66
P, 100.00, 2.30,9202012076256016
T, 100.00, 0.00,Cheque,6666666666
X,006001007032050,19960103,111500,1
P, 100.00, 2.30,9202013004256623
T, 100.00, 2.50,CreditCard,4
3,700.00,6.90,5,700.00,2.50

SOF,1,6003,19970519,112904,1
X,006001007031161,19960103,093000,1
P, 200.00, 0.00,96003740200469273
T, 200.00, 0.00,Cash
1,200.00,0.00,1,200.00,0.00

2.5 File Name

The file name will be in the following format:

easy{ReceiverId}.{FileGenerationNumber}

Where:

{ReceiverId} is the 4 digit EasyPay Receiver Id and

{File Generation Number} is the last 3 digits of the File Generation Number.

The File Generation Number is the last field of the header record. If the generation number has less than 3 digits it will be left-padded with zeros. The 3 digits will be zeros when the generation number ends with 3 zeros.

Examples:

easy2021.003

easy2021.123

easy2021.000

For file naming of interim files see point 6 of section 4.

3. THE FRL FORMAT

3.1 Overview

This is the Fixed Record Length format. This file format starts with a header record and ends with a trailer record. Between the header and trailer there are any number of transaction records, each of which is followed by a payment record and any number of tender records.

The header contains a file generation number which will start at 1 and be incremented for each file generated. It is very important that this number be checked to prevent duplicate files and to detect missing files. The trailer must also be checked in order to determine whether the file is complete.

Each record contains a record byte check which is the sum of the ASCII values of each of the first 74 bytes multiplied by the character position in the record. This serves to prevent modification of any one record. Note that the verification of the record byte checks is optional, but useful to detect tampering and/or transmission errors.

3.2 Description of Records

Header Record (01)

Record Identifier	9(2)
Date Processed (yyyymmdd)	9(8)
File Generation Number	9(6)
Receiver Identifier	9(4)
File Version Number (currently 4)	9(2)
Filler	x(52)
RecordByteCheck	9(6)

Transaction Record (40)

Record Identifier	9(2)
Date (yyyymmdd)	9(8)
Time (hhmmss)	9(6)
Collector	x(16)
POS	x(8)
Filler	x(34)
RecordByteCheck	9(6)

Payment Record (50)

Record Identifier	9(2)
Date (yyyymmdd)	9(8)
Time (hhmmss)	9(6)
EasyPay number	9(40)
Amount	s9(7)v9(2)
Fee	s9(5)v9(2)
RecordByteCheck	9(6)

3.4 File Name

The file name will be in the following format:

easy{ReceiverId}.{FileGenerationNumber}

Where:

{ReceiverId} is the 4 digit EasyPay Receiver Id and

{File Generation Number} is the last 3 digits of the File Generation Number.

The File Generation Number is the last field of the header record. If the generation number has less than 3 digits it will be left-padded with zeros. The 3 digits will be zeros when the generation number ends with 3 zeros.

Examples:

easy2021.003

easy2021.123

easy2021.000

For file naming of interim files see point 6 of section 4.

4. INTERIM FILES

If configured to do so, a receiver may receive a number of files during the day from the EasyPay Bill Payment Online Server. These files will be in either the SOF or FRL formats. However there will be a number of key differences between the interim files and those received daily from the EasyPay Settlement system.

1. The content of the interim file is only valid between the time the file is created and when the daily file is received.
2. The daily file contains the "true set" of transactions. This means that:
 - a. Payments included in the interim files that are not in the daily file should be disregarded.
 - b. Payments included in the daily file that were not in any interim file should be included.
3. Tender information in the interim files should be ignored and is present just to satisfy file structure rules.
4. Fee and Bank Cost information in the interim files should be ignored. These files are produced before the payments are processed by the settlement system and therefore cannot contain any fee information.
5. File generation numbers will not be consistent across the interim and real file boundaries (they will not follow from one file type to another). Interim files will have their own generations numbers, these numbers will not be related to the generation numbers of the real files.
6. File names of the interim files will begin with "bps" where the real files use "easy". For example:
 - bps2021.003
 - bps2021.123
 - bps2021.000