

POS To MI.net – Detail Sales Interface Specifications

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1. General

1.1. Purpose of document

This document shall describe the POS to MI.Net detail sales interface file format.

1.2. Document control

1.3. Abbreviation

EOD	End of Day
EOS	End of Shift
MI	Mall Intelligence
POS	Point of Sales

1.4. Other documents

File name	Description

2. POS to MI.Net Detail Sales Interface Specifications

2.1. Overview

Sales information captured at tenants' POS systems need to send back to MI.Net system for further processing and consolidation.

2.2. Detail Transaction File

The detail sales file is to be generated from the tenants POS machine and it contains every detail of a receipt issued at the POS. One file is to be created for each POS per business day. The file is to be sent to MI.Net system after the end of business day. The cut off time for sending the file to is 03:00hr the next day.

3. Detail Transaction File Specifications

3.1. Naming Convention

This file contains the detail data of every transaction issued by each POS. One file is to be created for each POS per business day. This means that if a shop uses 3 POSes on a particular day, 3 files should be generated for that day. The file naming convention is as follows:

taaaaaaaaaaaaaa_pppppp_xxxx_YYMMDDHHMM.txt

where:

t	prefix
aaaaaaaaaaaaa	Is the Tenant ID. This Tenant ID is assigned to the tenant by the Mall Management. <i>Note: A new Tenant ID will be given when the contract is renewed.</i>
pppppp	the POS that generates the sales data (e.g. 1, 02, 123, P015, AAAA, POS789, etc)
xxxx	is the transaction file number starting from 1. Every time a file is generated for the same POS, it should be incremented by 1. This number should be reset to 1 on reaching 9999.
YYMMDDHHMM	date and time the file is generated
.txt	file extension

Note:

The file name cannot contain any of the following characters:-

\\ : * " ' |

Example

Tenant ID ABC1234-321 has 2 POSes, POS#100 and POS#101 and it uses both POSes on a particular day. 2 files should be generated:-

- (i) tABC1234-321_100_9999_0609282200.txt,
- (ii) tABC1234-321_101_123_0609282130.txt

The next day, assuming only POS#100 is used, and then only 1 file will be generated

- (i) tABC1234-321_100_1_0609282200.txt

3.2. Contents of Transaction File

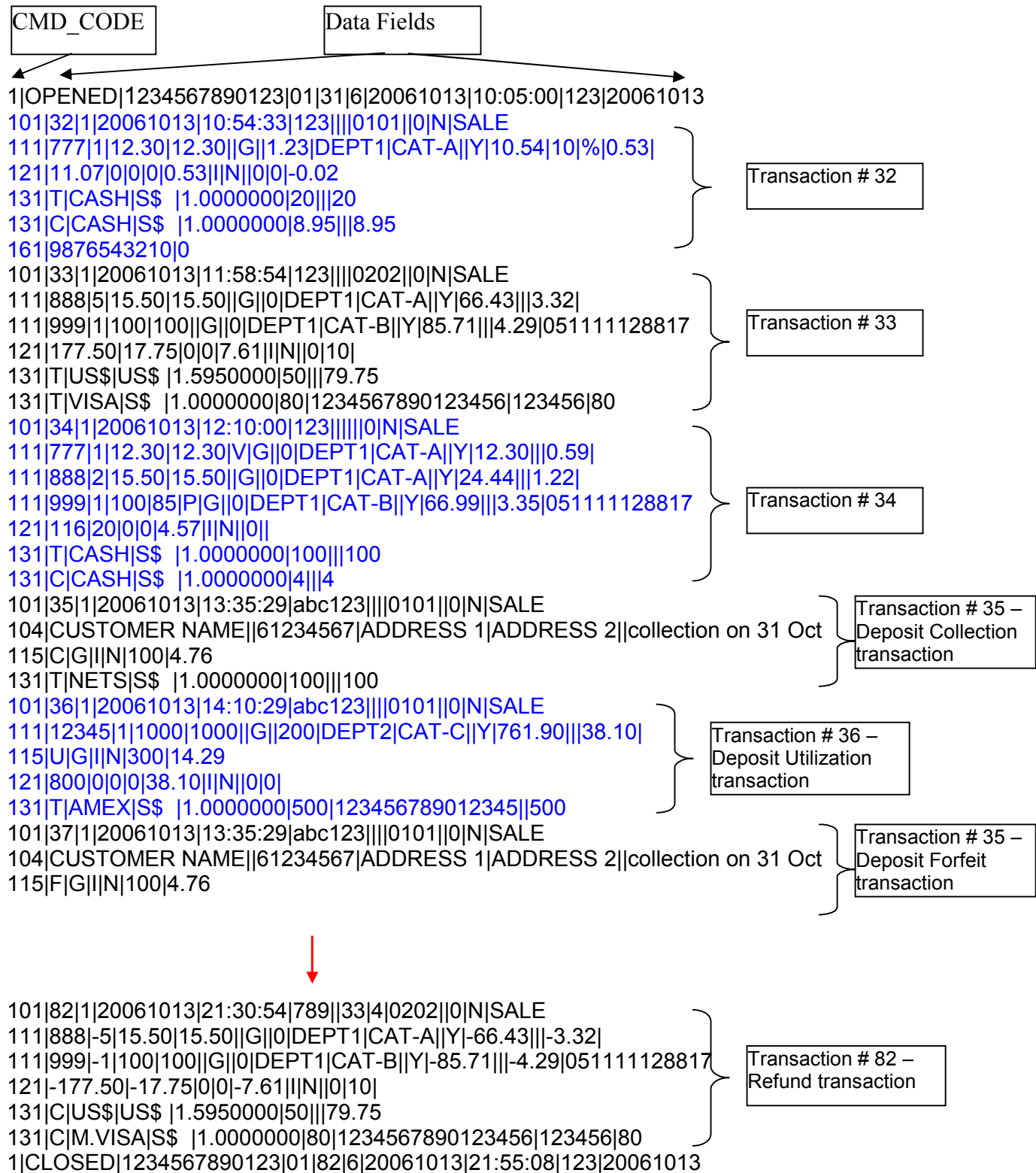
The file is a multi-record-type and variable-record-length file. The first field (REC_TYPE) indicates what type of record it is, the general format is as follows:

REC_TYPE|Data_field_1| Data_field_2|.....|Data_Field_n<CR><LF>

- 1) All fields should be in ASCII format. The field delimiter is the pipe character (“|”)
- 2) The width specified is the maximum width for the field. However, actual number of characters stored may be less than the maximum. Null values (nothing between 2 pipes for any middle field, or nothing between the last pipe and the record terminator for the last field) means that user did not enter any value (or the POS did not generate it) to the fields while issuing the receipt.
- 3) Each record is terminated by the CR (carriage return, Hex 0D) and LF(line feed, Hex 0A)

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The following is a sample transaction file. Definition of each record type is given in subsequent sections.



3.2.1. CMD_CODE = 1

Record Description

This record contains the information of the shop, POS terminal number and time when this file was opened / closed. One record with 'OPENED' status appears at the beginning of the file to indicate the beginning of the transaction file. One record with 'CLOSED' status appears at the end of the transaction file to indicate the ending of the transaction file.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	FILE_STAT	C	6			R	is the file status, mandatory - OPENED - CLOSED
2	TENANT_NO	C	14			R	same as the Tenant ID in filename
3	POS_NO	C	6			R	the POS number
4	RECEIPT_NO	C	10			R	is the opening / closing receipt number depending on FILE_STAT; "Opening receipt number" is the last receipt number issued by this POS just before the last EOD "Closing receipt number" is the last receipt number issued by this POS just before the current end-of-day. It will become the "Opening receipt number" of the next EOD
5	TRAN_FILE_NO	N	4		9(4)	R	the transaction file number, same as the one in filename. Every time a file is generated, this number is incremented by 1. Upon reaching 9999, it should reset to 1.
6	DATE	Date	8		YYYYMMDD	R	is the date when this file is opened / closed. Note that this date is for information only and it is NOT the business date.
7	TIME	C	8		HH:MM:SS	R	is the time when this file is opened / closed
8	USER_ID	C	8			R	If FILE_STAT = OPENED, this is the initial of the user who did previous POS EOD processing if FILE_STAT = CLOSED, this is the initial of the user who did the current POS EOD processing
9	SALE_DATE	Date	8		YYYYMMDD	R	is the business date where all the transactions belong to

3.2.2. CMD_CODE = 101

Record Description

This is the header record of each transaction.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	RECEIPT_NO	C	10			R	is the receipt number of this transaction. The POS should reset this number to 1 when it reaches the maximum number. The maximum number can be less but cannot be more than 9999999999 (ten 9's). RECEIPT_NO cannot be duplicated within one transaction file. If TRAINING=Y, it must be the training receipt number
2	SHIFT_NO	N	2		99	R	is the shift of the day
3	DATE	Date	8		YYYYMMDD	R	is the date when the transaction was performed
4	TIME	C	8		HH:MM:SS	R	is the time when the transaction was performed
5	USER_ID	C	8			R	is the initial of the user who performed the transaction
6	MANUAL_RECEIPT	C	10				is the standby receipt number (manual receipt number)
7	REFUND_RECEIPT	C	10				is the sales receipt number of a refund transaction. For a normal sales receipt, it must be NULL. If not NULL, it is interpreted as a refund transaction
8	REASON_CODE	C	2				is the reason code of the refund transaction
9	SALESMAN_CODE	C	8				is the salesman code
10	TABLE_NO	C	10				is the table number of the transaction (for F&B only)
11	CUST_COUNT	N	2		99		is the number of covers for the transaction (for F&B only)
12	TRAINING	C	1		Y / N	R	is a flag to determine whether training mode is on / off. If "Y", this is a training transaction
13	TRAN_STATUS	C	8		"SALE" or "Any remarks"	R	Should always be "SALE", except for the following reason:- For some POS systems, every activity (eg. sign on, sign off, EOS, EOD etc) done on the POS consumes one transaction number. If the POS also uses the transaction number as receipt number (RECEIPT_NO), then, for each of this kind of non-sales activity, a CMD_CODE 101 record should be generated. The contents in this field can be any value (eg. SIGNON, ENDSHIFT, TEMPOFF, etc) but not "SALE"

3.2.3. CMD_CODE = 102**Record Description**

This record stores the information of the customer. If customer information is not entered, this record is not created.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	PASSPORT_NO	C	16				is the passport number of the customer
2	FLIGHT_NO	C	10				is the flight number of the customer
3	NATION_CODE	C	3				is the nationality code of the customer
4	CONNECT_FLIGHT	C	1		Y/N		is the status to denote whether the customer is on a connecting flight
5	PAX_TYPE	C	1		A / D / S / T / O		is the type of passenger A – Arrival D – Departure S – Transit T – Transfer O – Others
6	SEX	C	1		M / F		M – Male F – Female
7	AGE_GROUP	C	2				is the age group id

3.2.4. CMD_CODE = 103

Record Description

This record stores the information of the customer. If customer information is not entered, this record is not created.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	CUST_NAME	C	30			R	is the name of the customer
2	PHONE_NO	C	20				is the telephone number of the customer
3	ADDRESS_1	C	30				is the address of the customer
4	ADDRESS_2	C	30				is the address of the customer
5	ADDRESS_3	C	30				is the address of the customer

3.2.5. CMD_CODE = 104

Record Description

This record stores the deposit information of the customer. If customer information is not entered, this record is not created.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	CUST_NAME	C	60			R	is the name of the customer
2	IC_NO	C	20				is the identification no. of the customer
3	PHONE_NO	C	20				is the telephone no. of the customer
4	ADDRESS_1	C	30				is the address of the customer
5	ADDRESS_2	C	30				is the address of the customer
6	ADDRESS_3	C	30				is the address of the customer
7	REMARK	C	30				is the remark text for this customer

3.2.6. CMD_CODE = 111
Record Description

This record stores information of the item sold including void items. If N different items are sold in a transaction, N records are created.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	ITEM_CODE	C	16			R	is the unique code of the item
2	ITEM_QTY	N	8	3	999.999 or -999.999	R	is the quantity purchased. For refund, it is preceded by a negative (-) sign
3	ORG_PRICE	N	8	2	99999.99	R	is the original selling price of the item
4	NEW_PRICE	N	8	2	99999.99	R	is the selling price of the item which can be changed by Price Override function or Department Markdown. If NEW_PRICE = ORG_PRICE, it means there is no price override or department markdown. If ITEM_FLAG = blank and NEW_PRICE <> ORG_PRICE, it means department markdown is done to this item. If ITEM_FLAG = P and NEW_PRICE <> ORG_PRICE, it means price override is done to this item
5	ITEM_FLAG	C	1		V / P / Null value		is the status of this ITEM code V – void item, item value is not included in sales total P – price override Null value – normal item
6	TAX_CODE	C	4			R	is the tax code of this item
7	DISCOUNT_CODE	C	2				is the discount code (only if used-defined discount code is used)
8	DISCOUNT_AMT	N	8	2	9999.99 or -9999.99		is the total item discount amount given to this line item disregard of the value of ITEM_QTY. For refund, it is preceded by a negative (-) sign
9	ITEM_DEPT	C	8			R	is the department code of this item
10	ITEM_CATG	C	8				is the category code of this item
11	LABEL_KEYS	C	3				is the combination of the label codes (Business Hour = Customer Type + Item Size), for F&B only
12	ITEM_COMM	C	1			R	is the flag to indicate whether item is subject to commission
13	ITEM_NSALES	N	10	2	999999.99 or -999999.99	R	is the total net sales amount of this line item disregard of the value of ITEM_QTY : ITEM_QTY*NEW_PRICE – DISCOUNT_AMT – ITEM_STAX – Distributed Item Disc where Distributed Item Disc is the Overall Disc Amount (see CMD_CODE 121 DISCOUNT field) distributed to all discountable items, used for POS reports and MI backend For refund, it is preceded with negative (-) sign.

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S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
14	DISCOUNT_BY	N	6	2	999.99		Is the amount of discount in % or \$, for POS updating only. Eg. If item disc is 20%, DISCOUNT_BY = 20 DISCOUNT_SIGN = % If item disc is \$5.00, DISCOUNT_BY = 5 DISCOUNT_SIGN = \$
15	DISCOUNT_SIGN	C	1		% or \$	R	is the type of item discount, default to % % - percentage discount is given \$ - dollar discount is given
16	ITEM_STAX	N	10	2	999999.99 or -999999.99	R	is the item tax amount, for POS updating only. For refund, it is preceded with negative (-) sign
17	PLU_CODE	C	16				is the PLU code if user entered this code during sales

3.2.7. CMD_CODE = 115**Record Description**

This is the footer record of a deposit transaction.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	FLAG	C	1			R	is the flag of deposit entry C – Deposit Collection F – Deposit Forfeit R – Deposit Refund U – Deposit Utilization
2	TAX_CODE	C	4				is the tax code used to compute tax amount for the deposit amount collected
3	TAX_TYPE	C	1		I / E	R	is the type of tax I – Deposit amount include tax E – Deposit amount exclude tax
4	TAX_EXEMPT	C	1		Y / N	R	is the tax exempt flag Y – Tax amount is exempted N – Tax amount is to be paid by customer
5	DEP_AMOUNT	N	10	2	999999.99 or -999999.99	R	is the amount of deposit entry. For refund deposit entry, precede with negative (-) sign
6	TAX_AMT	N	10	2	999999.99 or -999999.99		is the tax amount computed. For refund, preceded with negative (-) sign

3.2.8. CMD_CODE = 121
Record Description

This is the footer record of a transaction that stores all Tax, Cess, Service Charge and Discount details. Cess and Service Charge are used for F&B only.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	SALES	N	11	2	9999999.99 or -9999999.99	R	is the total sales amount before deducting discount (i.e. transaction discount). For refund, it is preceded with negative (-) sign. If prices are inclusive of GST, GST amount is included. If prices are exclusive of GST, GST amount is excluded.
2	DISCOUNT	N	11	2	9999999.99 or -9999999.99		is the discount given for this transaction. For refund, it is preceded with a negative (-) sign
3	CESS	N	11	2	9999999.99 or -9999999.99		is the cess for this transaction, for F&B POS only. CESS is not included in the SALES amount. For refund, it is preceded with negative (-) sign
4	CHARGES	N	11	2	9999999.99 or -9999999.99		is the service charge for this transaction, for F&B only. CHARGES is not included in the SALES amount. For refund, it is preceded with negative (-) sign
5	TAX	N	11	2	9999999.99 or -9999999.99		is the tax amount collected or exempted for this transaction depending on flag EXEMPT_GST. For refund, it is preceded with negative (-) sign.
6	TAX_TYPE	C	1		I / E	R	is the type of pricing method I – selling price inclusive of tax E – selling price exclusive of tax
7	EXEMPT_GST	C	1		Y / N	R	is to indicate if GST has been exempted for this transaction Y – GST is exempted N – GST is not exempted
8	DISCOUNT_CODE	C	2				is the discount code used for receipt discount (if used-defined discount code is used)
9	OTHER_CHG	N	7	2	9999.99		is the amount of other charges which is not subject to MI rental computation
10	DISCOUNT_PER	N	6	2	999.99		is the percentage of overall discount. If null and DISCOUNT is not zero, \$ overall discount is given.
11	ROUNDING_AMT	N	7	2	999.99 or -999.99		is the rounding adjustment amount, positive value if there is a gain in collection and negative value if there is a loss in collection

3.2.9. CMD_CODE = 131**Record Description**

This is the footer record of a transaction that stores the payment medium, currency code and amount tendered or changed. If payment is made in N currencies, N records are created.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	TYPE	C	1		T / C	R	is the type of record T – Tender C – Change For refund, T & C will be reversed
2	PAYMENT_NAME	C	8			R	is the name of payment mode (Cash / Cheque / NETS / Voucher / VISA / AMEX / MASTER / DINERS ... etc)
3	CURR_CODE	C	4			R	is the currency code used (eg. S\$, US\$)
4	BUY_RATE	N	12	7	9999.99999 99	R	is the exchange rate of the currency used
5	AMOUNT	N	10	2	9999999.99	R	is the amount tendered / changed
6	REMAKRS_1	C	24				is additional information captured for the payment mode. Eg. if payment by credit card, this fields stores the credit card number.
7	REMARKS_2	C	24				is additional information captured for the payment medium. Eg. if payment by credit card, this fields stores the approval code.
8	BASE_AMT	N	10	2	9(7).99	R	is the amount in local amount (i.e. S\$)

3.2.10. CMD_CODE = 161**Record Description**

This record stores the loyalty customer information if the purchaser is a loyalty customer. If such information is not captured, this record is not created.

Record Structure

S/N	Field Name	Type	Length	Dec	Format	Opt	Remarks
1	CARD_NO	C	16			R	is the card number captured at the POS
2	BONUS_POINT	N	12	2	9(8).99 or -9(8).99		is the bonus points calculated at the POS. If calculation of bonus points are to be done in MI Loyalty Customer module, this field should be NULL. For a refund transaction, this field should be negative.