TEMENOS
The Banking Software Company

Temenos - Country Model Banks
Generic ATM Framework
User Guide

Amendment History

Version	Date	Author	Status	Description
0.1	31-Jan-2013	Pradeep M T	Draft	Initial Release
0.2	20-Mar-2013	Pradeep M T	Amendment	New Tables were added
1	20-Mar-2013	Haripriya	Base lined	
1.1	04-Apr-2013	Pradeep M T	Amendment	Charge Tables were modified
1	04-Apr-2013	Pradeep M T	Base lined	
2.1	17-May-2013	Pradeep M T	Amendment	Phoenix Interface Integrated
2.2	28-June-2013	Pradeep M T	Amendment	Generic issues were fixed
3.0	01-July-2013	Pradeep M T	Base lined	

Comments:

The user guide is created for Multiport ATM Interface of ISO8583:87/93 versions and Phoenix Interface.

Table of Contents

1. Assumptions

It is assumed that the reader of this document is familiar with the navigation around T24 product and is familiar with the T24 Accounting concepts, FT, AC.LOCKED.EVENTS Modules.

This document provides information about the Functional workflow, templates/versions/enquires used and ISO Message standards supported in ATM Interface.

2. Functionality Overview

ISO 8583 is a standard for creating and reading financial transaction messages including Point of Sale (POS) transactions, Automated Teller Machines (ATM) and network-to-network, real-time financial transactions. These messages enable consumers to withdraw money from ATM's and conduct business in a real-time world.

The ATM Interface is developed as a middle layer between the ATM SWITCH and T24. The interface consists of a plug-in for Application Server to receive the messages via a dedicated port and translate the ISO messages. Application Server sends the ISO message to T24 where the ISO message converted to OFS message format based on the mapping files to be updated on to T24 applications. After the transaction has been completed at T24, the response ISO messages are formatted within the scope of the ATM Interface. The response messages are indicated with the appropriate error or ok status depending upon the T24 applications reply status.

The protocol used for communication between the host and the switch is usually TCP/IP via sockets. ATM interface provide a high performance multi-threaded synchronous socket listener that has custom functionality/intelligence built-in for handling ISO messages with length prefix through TCP/IP.

Application Server can be configured for listening ISO messages on any number of ports as required by the load on the site. However, a judicious choice should be made considering the load so that not to leave too many ports listening idle. The switch should try to throw open multiple sockets/connections on the same port(s) when the load increases.

The main features of this interface is to caters all the standard ATM operations like Cash withdrawal, Point of Sale, Balance enquiry, Mini statement, Statement request, Account transfer, Cash Deposit and Cheque Book Request.

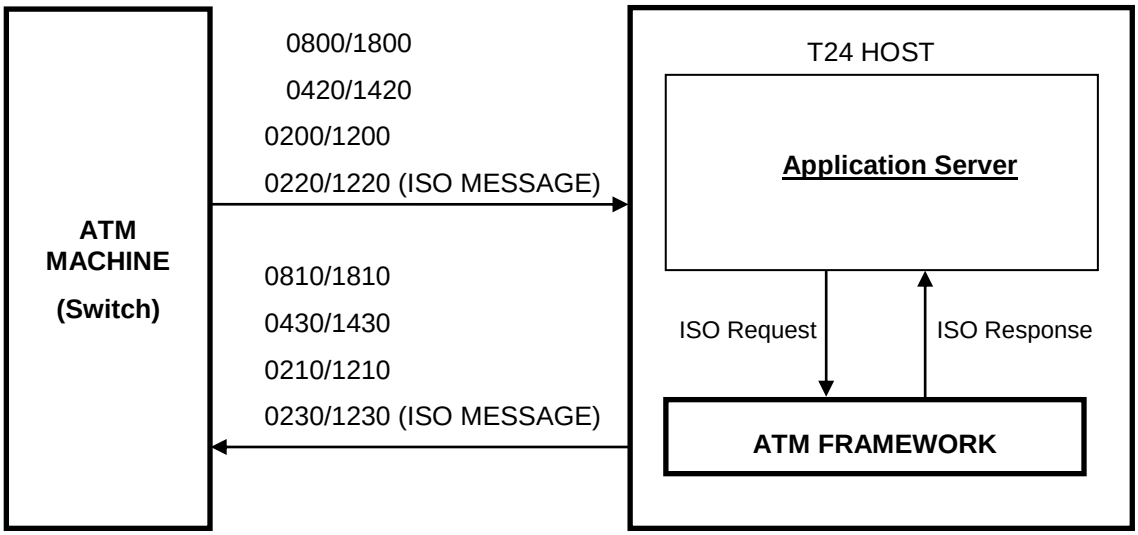
Note: ATM Interface supports ISO 8583:87 and ISO 8583:93 versions only. All Functionality specified below is supported for both ISO 8583:87/93 versions.

Application Servers supported by ATM Interface

These are the Application servers supported by ATM Interface.

- TC Server
- Jboss
- Websphere
- Weblogic

3. General Flow diagram



How is it working?

When a customer uses an ATM terminal connected to the switch server, the switch sends a message to T24. Depending upon the message and various functions, accounting entries are generated in T24 and responded either with an error message or requested details back to the ATM Interface. These transactions could be done from any ATM and depending on where and which customer is doing the transaction we could broadly classify them as:

- ✓ **ON US TRANSACTIONS** – T24 customer doing transaction in an ATM attached to T24 branch
- ✓ **NETWORK TRANSACTIONS** - T24 customer doing transaction in an ATM attached to non-T24 / other institution's branches
- ✓ **LORO TRANSACTIONS** - Non-T24 customers doing transaction in ATM attached to T24 branch.

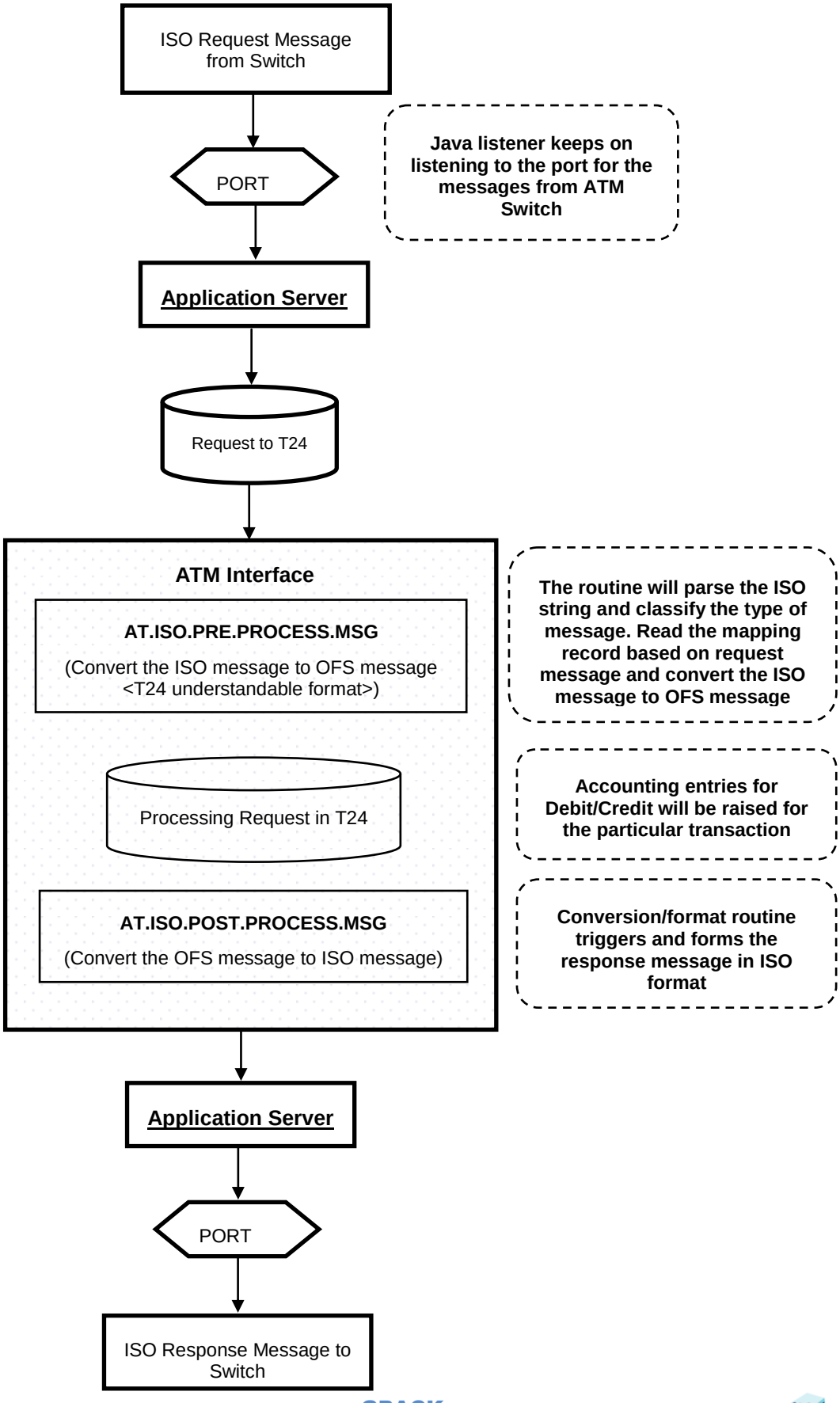
Once the interface is started, the parameters required for the Interface are read from the mapping tables. Java Listener listens to a port where ATM Switch will be sending the ISO8583 messages. Once the raw ISO8583 message is read from the port, ATM Interface converts this raw ISO message into OFS message format and sends it to T24, for the execution of corresponding transaction. After the transaction has been completed at T24, the response messages are formatted in ISO8583 format and sent back to ATM Switch.

Purpose

- ✓ All online transactions will be approved or rejected by T24.
- ✓ The time-out will be agreed between Gpack and the switch on a case to case basis considering the prevailing network and other conditions.
- ✓ STAN, DATE.TIME will be used as unique identifier for each message by T24 unless otherwise specified.

The following section will explain functionally about the architecture of ATM Interface:

Message processing in T24



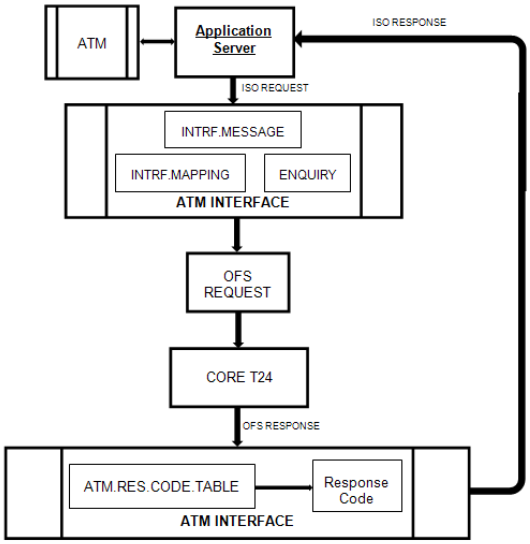
4. Transactions Supported

Below are the transactions supported in Generic ATM Interface

- ✓ Network Messages
- ✓ Balance Enquiry
- ✓ Cash Withdrawal Transactions
- ✓ Mini Statement Messages
- ✓ Statement Request*
- ✓ POS Transactions
- ✓ Intra Bank Funds Transfer Transactions
- ✓ Cash Deposit*
- ✓ Cheque Issue*
- ✓ Cheque Deposit*
- ✓ Utility Bill Payments*
- ✓ Cash Withdrawal Reversal
- ✓ Intra Bank Funds Transfer Reversal
- ✓ POS Reversal
- ✓ Cash deposit Reversal*
- ✓ Cheque Deposit Reversal*
- ✓ Utility Bill Payments Reversal*

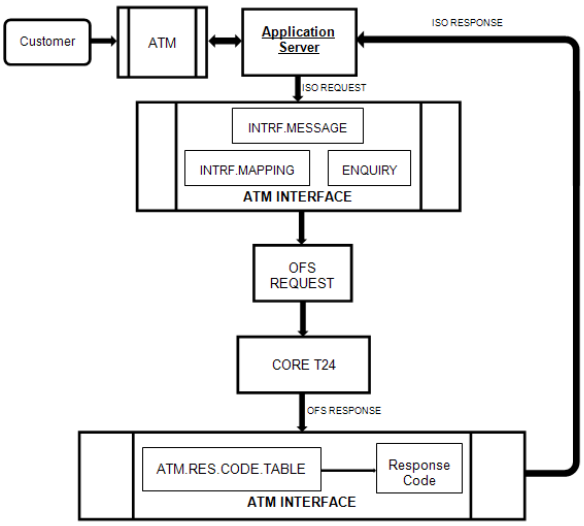
4.1 NETWORK MESSAGES

Network transactions are used as handshake between ATM switch and T24 host system. The Network messages will be initiated using a 0800 request with network-management-information-code (Sign on – '001', Signoff – '002', Echo Test - '301') from ATM switch and the T24 host will respond with an 0810.



4.2 BALANCE ENQUIRY

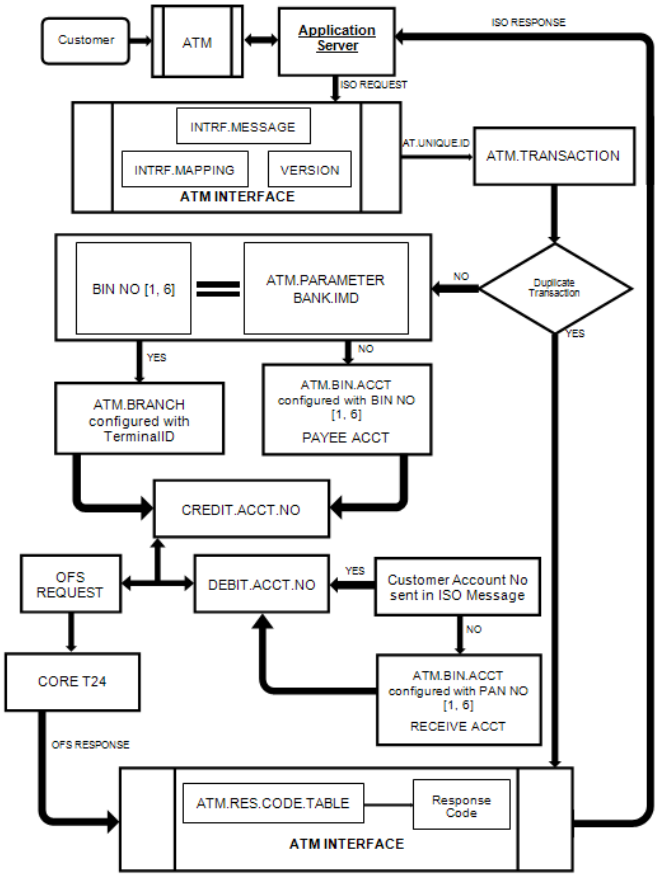
When a customer does the balance enquiry at ATM terminal, the request message will be sent to T24 Host. T24 will check the corresponding account and then get the balance details by launching an enquiry. The charge amount will be collected from the customer account if applicable.



4.3 CASH WITHDRAWAL

When any customer does a cash Withdrawal in ATM, machine will raise a debit to the cardholder's account/Bank Account and a corresponding credit to the ATM cash account. If T24 is **on-line**, withdrawals are only allowed if sufficient funds are available.

The below workflow describes the applications and accounting levels entries raised during On-Us, Remote On-Us, Off-Us transactions

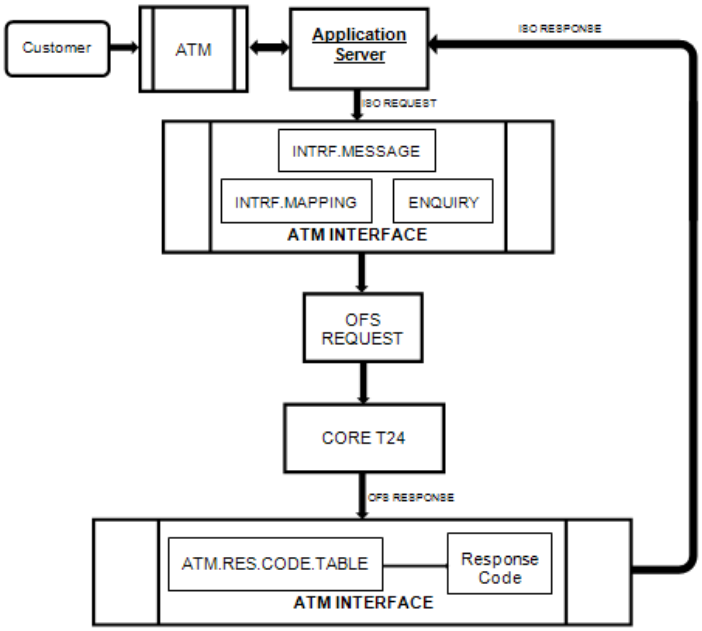


Note: Same Workflow happens when T24 goes **Off-line** and advice messages are posted.

4.4 MINI STATEMENT

When a customer does the mini statement transaction at ATM terminal, the request message will be sent to Host. T24 will check the corresponding account and then get the last 10 transaction details for that account by launching an enquiry.

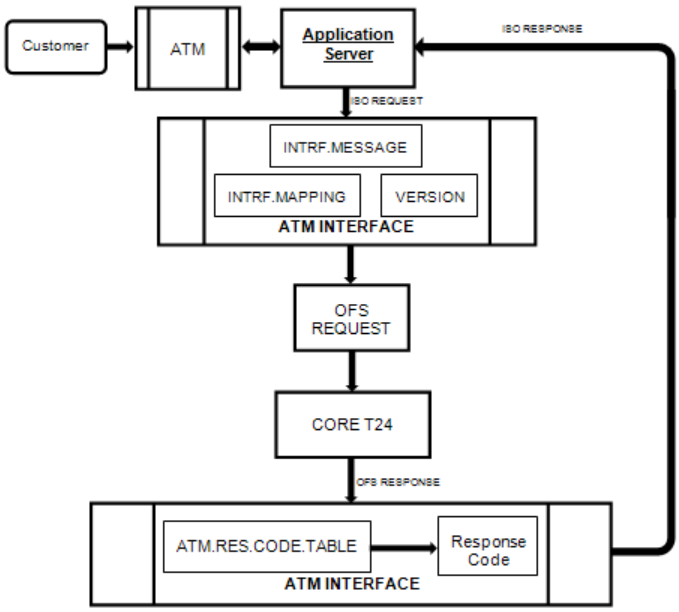
The below workflow describes the applications and accounting levels entries raised during On-Us transactions.



4.5 STATEMENT REQUEST*

When a customer does the statement request transaction at ATM terminal, the request message will be sent to Host. T24 will check the corresponding account and then updates a local table in T24 with the account number and the statement requested date.

The below workflow describes the applications and accounting levels entries raised during On-Us transactions.



4.6 PURCHASE TRANSACTIONS

There are two methods of POS transactions processed into T24.

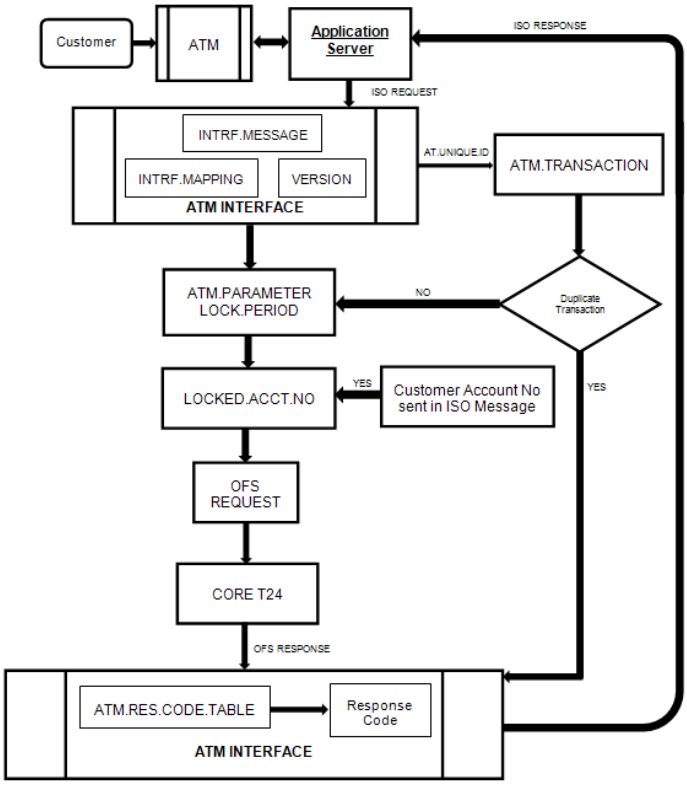
- BASEI & BASEII[Force Posts]*
- STANDARD TRANSACTION

Note: Any one method only can be implemented for POS Transactions [Bank & Switch has to decide on this]

Base I:

When a customer purchases goods from any POS terminal the transaction message will be sent to T24 Host, ATM interface will lock the amount in the customer's account based on the lock period mentioned in Parameter table.

The below workflow describes the applications and accounting levels entries raised during Authorization request based transactions.

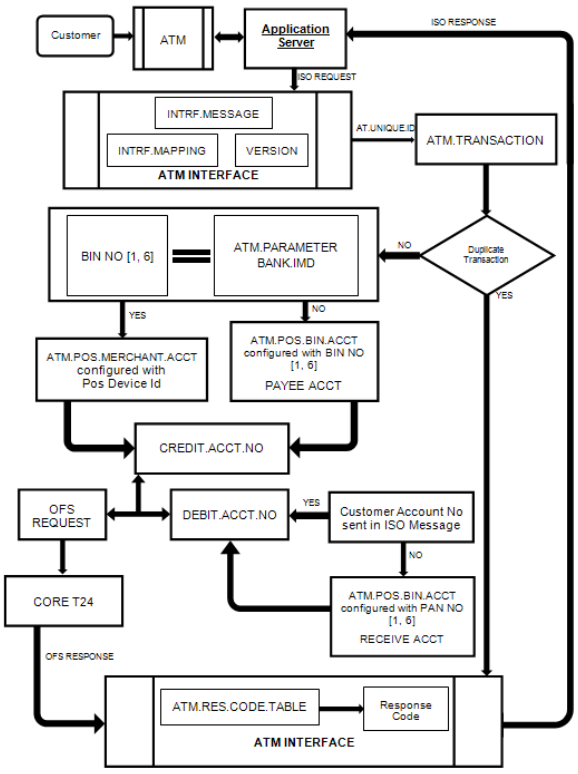


Base II & Standard Transactions:

When a customer purchases goods from any POS terminal the transaction message will be sent to T24 Host, ATM interface will validate the transaction terminal, account, amount and will raise an accounting entry in T24.

Difference between Base II and standard transactions is Base II will be sent as Advice message whereas other case will be sent as On-line message

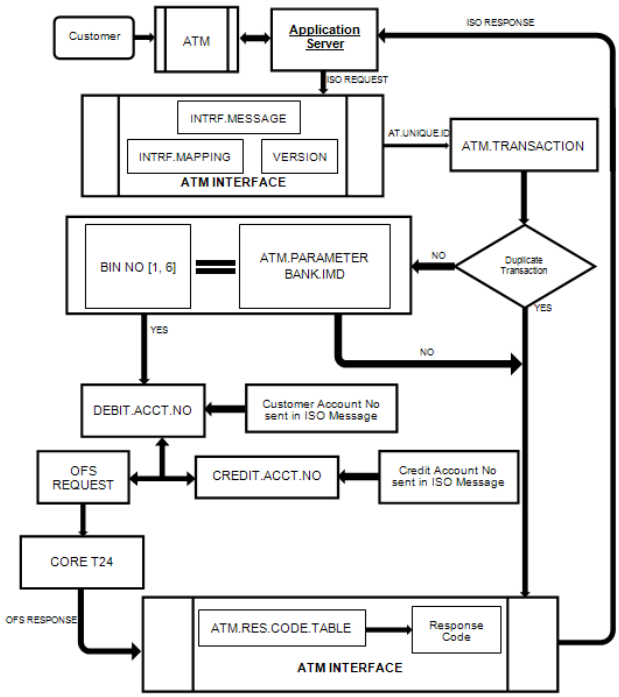
The below workflow describes the applications and accounting levels entries raised during On-line & Base II based transactions.



4.7 INTRABANK TRANSACTIONS

When a customer does account to account transfer (within bank) via the Atm terminal the transaction message will be sent to Host, T24 will validate the debit and credit account, available balance in Debit account and based on the validation check, T24 will post the transaction and send the response to the switch with the processing status.

The below workflow describes the applications and accounting levels entries raised during On-Us transactions

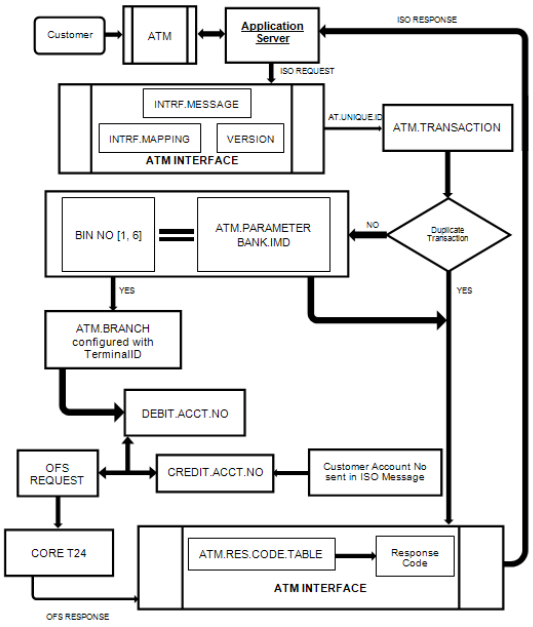


Note: Same Workflow happens when T24 goes **Off-line** and advice messages are posted.

4.8 CASH DEPOSIT*

When a customer does cash deposit in the ATM terminal, the transaction messages will be sent to T24 host to raise an accounting entry. T24 will validate the account and credit the amount to the customer's account and debit the ATM GL account.

The below workflow describes the applications and accounting levels entries raised during On-Us transactions

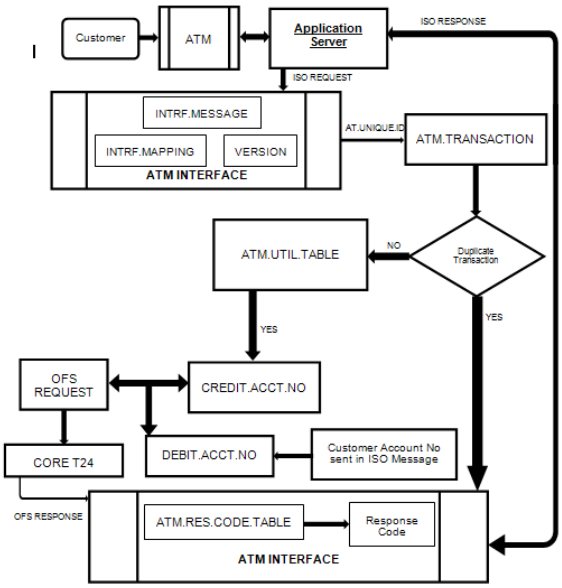


Note: Same Workflow happens when T24 goes **Off-line** and advice messages are posted.

4.9 UTILITY BILL PAYMENT*

A Customer can go into an ATM and pay his bills. T24 will debit the cardholder's account and a corresponding credit to the ATM cash account. If T24 is **on-line**, Bill payments are only allowed if sufficient funds are available.

The below workflow describes the applications and accounting levels entries raised during On-Us, Remote On-Us transactions

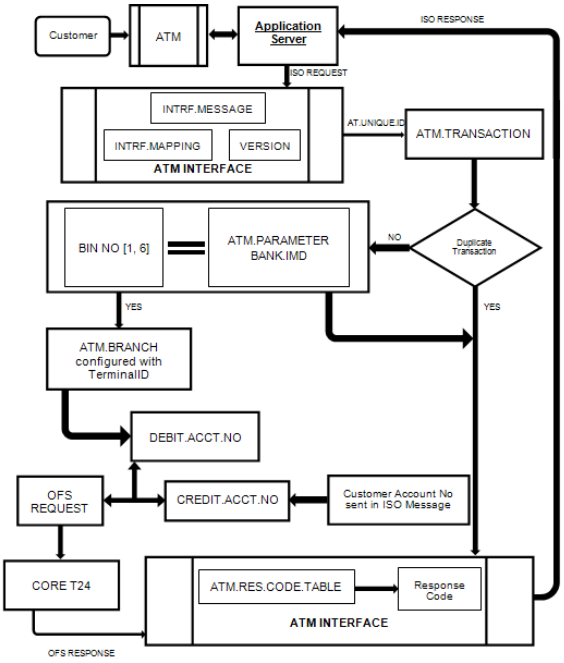


Note: Same Workflow happens when T24 goes **Off-line** and advice messages are posted.

4.10 CHEQUE DEPOSIT*

When a customer does Cheque deposit in the ATM terminal, the transaction messages will be sent to T24 host to raise an accounting entry. T24 will validate the account and credit the amount to the customer's account and debit the ATM GL account.

The below workflow describes the applications and accounting levels entries raised during On-Us transactions

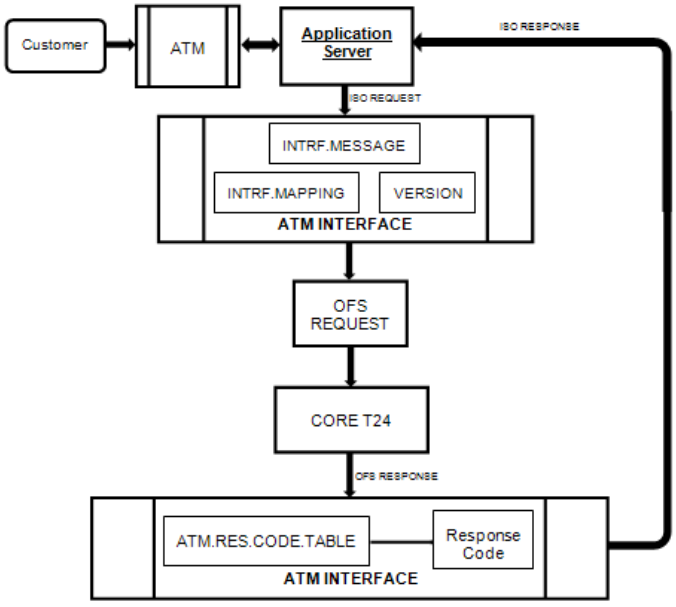


Note: Same Workflow happens when T24 goes **Off-line** and advice messages are posted.

4.11 CHEQUE BOOK REQUEST*

When a customer requests for the Cheque book at ATM terminal, the request message will be sent to Host. T24 will check the corresponding account and create a new request in CHEQUE.ISSUE table with status as Requested.

The below workflow describes the applications and accounting levels entries raised during On-Us transactions.

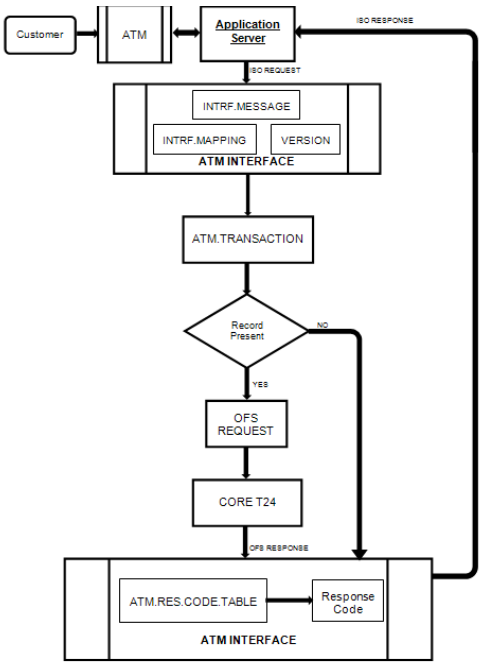


4.12 FULL REVERSALS

When a customer does any reversal of financial transactions in any ATM terminal/POS, switch will send the request message to T24 for processing. Switch will wait response message from T24.

In case of any network issues/T24 host down the response for request message will not reach the switch. In such a case switch will send the reversal message to T24 host to reverse the original transaction. T24 will get the original transaction reference based on the original data sent by switch and reverse the accounting entries in T24

Reversal will be done immediately whenever the reversal request received by T24.



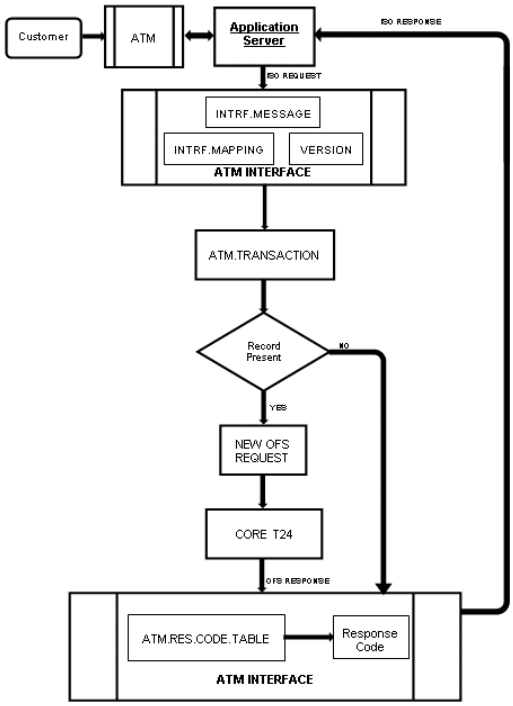
4.13 PARTIAL REVERSALS

When a customer does any partial reversal of financial transactions in any ATM terminal/POS, switch will send the request message to T24 for processing.

In case of **FUNDS TRANSFER**, we validate if original transaction is already stored in T24. If so, we will credit customer account based on the replacement amount sent.

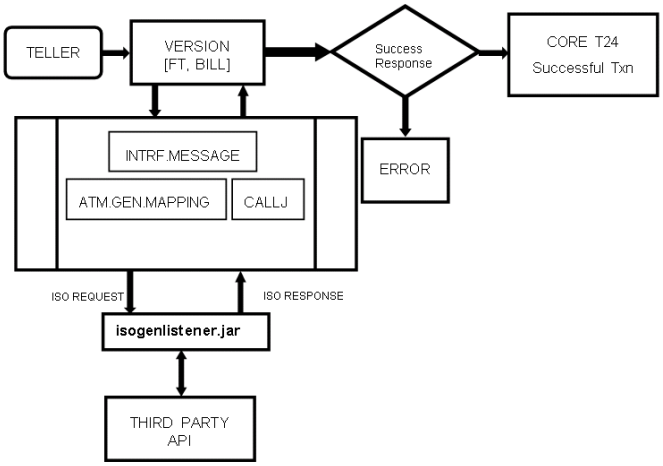
In case of AC.LOCKED.EVENTS, we validate if original transaction is already stored in T24. If so, we will release the amount locked and then lock the amount sent in replacement amount field.

Reversal will be done immediately whenever the reversal request received by T24.



4.14 PAYMENT VIA TELLER*

Customer can directly walk to Teller and pay Bill payments. The **AT.ISO.GEN.MSG** routine attached to the version passes the data to Third party via jar file placed. If a successful response is received from third party vendor, then the payment is completed. TT or FT can be raised based on this process.



Note: Version provided above is for reference purpose to understand the functional flow.

5. ATM Parameterization

5.1 INTRF.MESSAGE

This Application forms the skeleton of ATM Interface. This application contains the position, length for each and every data element of RAW ISO Message as per ISO 8583 standards. This application forms the base for Conversion/formatting the ISO message to OFS message and it's vice versa.

File Type: H

File Classification: INT

INTRF.MESSAGE field description and Population Type

NO	Field	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	TRACK.FILE.NAME	A	For Future Use
3	INTRF.PRE.RTN	A	This field hold routine name. Routine attached here should have one argument value passed. Customized hook routines can be attached here for pre-mapping validations. Click here for a sample screenshot.
4	MAPPING.ID	A	This field holds the values for forming INTRF.MAPPING data record Id. A routine can be attached here or data values i.e. ISO‖ 0 3 70 (In different multi-values) can be stored here. Click here for a sample screenshot.
5	INTRF.HEAD.NAME	A	Interface specific Header name. In reference to ISO to be used as names in the specification. Ex: Message Type Indicator. If no header is used. This field can be left as null
6	INTRF.HEAD.DELIM	A	For future use
7	INTRF.HEAD.POS	A	Header position. Represents Header field numbers. If no header is used. This field can be left as null
8	INTRF.HEAD.LEN	A	Length of the field. If no header is used. This field can be left as null
9	INTRF.HEAD.TYPE	A	Field type in case of ISO ex: FIXED, VARIABLE, BITMAP. If no header is used. This field can be left as null
10	INTRF.HEAD.S.M	A	For future use
11	INTRF.HEAD.MAND	A	For future use
12	INTRF.FLD.NAME	A	Interface specific field name. In reference to ISO to be used as names in the specification. Ex: Message Type Indicator.
13	INTRF.FLD.DELIM	A	For future use
14	INTRF.FLD.POS	A	Field position. Represents ISO field numbers in case ISO Messages.
15	INTRF.FLD.LEN	A	Length of the field (Max length in case of ISO)
16	INTRF.FLD.TYPE	A	Field type in case of ISO ex:

			FIXED,VARIABLE,BITMAP
17	INTRF.FLD.S.M	A	For future use
18	INTRF.FLD.MAND	A	For future use
19	TXN.FIELD.POS	A	This is a multivalve set. ATM.TRANSACTION field positions are mapped here. Customized hook routines can be attached here for updating the fields in ATM.TRANSACTION. Click here for a sample screenshot.
20	MV.RESERVED		For future use
21	INTRF.POST.RTN	A	This field hold routine name. Routine attached here should have one argument value passed. Customized hook routines can be attached here for post-mapping validations. Click here for a sample screenshot.
22	LOCAL.REF	A	For future use for local references
23	RESERVED.FIELDS		Reserved fields for future use.

TABLE 1 – INTRF.MESSAGE

DETAILED FIELD DESCRIPTIONS:

FIGURE 1. INTRF.PRE.RTN IN INTRF.MESSAGE

This field can be used for manipulating the Raw ISO message request when it is pushed from listener into T24. This field triggers the routine before reading the INTRF.MAPPING record. Customized routine can be attached here with @ before the routine name. Routine should have one argument value passed inside e.g. AT.FORM.PRE.RTN (ISO.MESSAGE).

Sample Routine is provided as below:

```
    SUBROUTINE AT.FORM.PRE.RTN(ISO.MESSAGE)

     $INSERT I_COMMON
     $INSERT I_EQUATE
     $INSERT I_AT.ISO.COMMON
     $INSERT I_F.ATM.PARAMETER

    LEN.ISO.MESSAGE = LEN(ISO.MESSAGE)
    LEN.ISO.MESSAGE = FMT(LEN.ISO.MESSAGE,'L%4')
    ISO.MESSAGE = LEN.ISO.MESSAGE:ISO.MESSAGE
     RETURN
END
```

Here we can add/amend/delete the incoming ISO Message based on Clients requirement and proceed further.

GO BACK

FIGURE 2. MAPPING.ID IN INTRF.MESSAGE

This field is a multivalve set. This field holds the formation of INTRF.MAPPING record ID. If a customized routine is going to be attached here, then @ has to be prefixed with the routine name. Routine should have one argument value passed inside e.g. AT.FORM.MAPPING.ID (INCOMING, MAPPING.ID).

Sample Routine is provided below:

```
    SUBROUTINE AT.FORM.MAPPING.ID(INCOMING,MAPPING.ID)

     $INSERT I_COMMON
     $INSERT I_EQUATE
     $INSERT I_AT.ISO.COMMON
     $INSERT I_F.INTRF.MAPPING
     $INSERT I_F.INTRF.MESSAGE

     MAPPING.ID = "ISO"
     MESG.TYPE.IND = AT$AT.ISO.RAW.MSG[5,4]
     PROCESSING.CODE = AT$INCOMING.ISO.REQ(3)
     PRE.AUTH.IND = AT$INCOMING.ISO.REQ(48)[7,1]

     MAPPING.ID = MAPPING.ID:MESG.TYPE.IND:PROCESSING.CODE:PRE.AUTH.IND

     CALL RAD.LOG.MSG("ATM","DEBUG","Mapping id formed ":MAPPING.ID)
     RETURN

END
```

A routine can be attached here and INTRF.MAPPING record Id can be formed based on client's requirement.

GO BACK

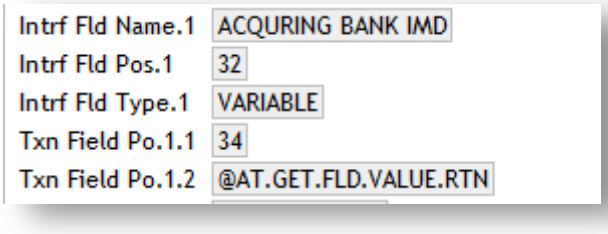


FIGURE 3. TXN.FIELD.POS IN INTRF.MESSAGE

This field is a multivalve set. This field is used for updating particular field in ATM.TRANSACTION application. The field number which is mentioned in TXN.FIELD.POS or routine attached to it will process the INTRF.FLD.POS value and update it in the respective field of ATM.TRANSACTION table. If a customized routine is going to be attached here, then @ has to be prefixed with the routine name. Routine should have one argument value passed inside e.g. AT.GET.FLD.VALUE.RTN (REQUEST).

Sample Routine is provided below:

```
    SUBROUTINE AT.GET.FLD.VALUE.RTN(REQUEST)

     $INSERT I_COMMON
     $INSERT I_EQUATE
     $INSERT I_AT.ISO.COMMON
     $INSERT I_F.ATM.TRANSACTION

     RESPONSE = ''

     IF REQUEST[1,2] EQ '00' THEN
         R.ATM.TRANSACTION<LOCAL.REF> = 'POS'
     END ELSE
         R.ATM.TRANSACTION<LOCAL.REF> = 'ATM'
     END

     RETURN
END
```

Here we can attach a routine and directly write the data in respective field of ATM.TRANSACTION.

GO BACK

FIGURE 4. INTRF.POST.RTN IN INTRF.MESSAGE

This field can be used for manipulating the ISO message request after reading the INTRF.MAPPING record. Customized routine can be attached here with @ before the routine name. Routine should have one argument value passed inside e.g. AT.POST.RTN (ISO.MESSAGE).

Sample Routine is provided below:

```
    SUBROUTINE AT.POST.RTN(ISO.MESSAGE)

     $INSERT I_COMMON
     $INSERT I_EQUATE
     $INSERT I_AT.ISO.COMMON
     $INSERT I_F.ATM.PARAMETER

    LEN.ISO.MESSAGE = LEN(ISO.MESSAGE)
    ISO.MESSAGE = ISO.MESSAGE[5,LEN.ISO.MESSAGE]

     RETURN
END
```

A routine can be attached here for adding/amending/removing the data and send it back to switch.

GO BACK

5.2 INTRF.MAPPING

This is a mapping file, which stores various details like T24 application, user name, password, version to be used and mapping between each message field to its T24 application field.

File Type: H

File Classification: INT

INTRF.MAPPING field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	MSG.TYPE	A	Informative field displays whether the mapping is for Request, Response or Error
3	PRE.RTN	A	This is a multivalve set. Customized Hook Routine can be attached here and can be triggered to perform any additional functionality needed to be executed within the Transaction. Click here for sample screenshot.
4	APPLICATION	A	Valid T24 application
5	OFS.FUNCTION	A	Holds the OFS function.
6	OFS.OPERATION	A	Holds the Processing Flag of either PROCESS or VALIDATE.
7	OFS.UTIL.NAME	A	This field will hold the version name or enquiry name to be used by OFS.
8	COMP.COD.MODE	A	This field holds the value CUST or ATM.
9	OFS.COM.CODE	A	This field holds routine which loads the Company. If CUST is selected in above field, then Company Id is loaded based on customer account. If ATM is selected, then Company Id is loaded based on Company code configured in Terminal
10	ID.GEN	A	Will accept Y or N contains information about the id of the application being updated by OFS.
11	OFS.USER	A	User Sign on to be used by OFS.
12	OFS.PASSWORD	PASSWD	Password of the user entered above.
13	RES.MAP.ID	A	Response mapping id for the request
14	INTRF.FLD.NAME	A	This is a multivalve set. Interface field name (Part of the message, descriptive) is provided here.
15	INTRF.FLD.PS	A	Position of this field within the message.
16	GLO.FLD.NAME	A	Corresponding T24 application field name given in OFS Format.
17	GLO.FLD.LN.TYPE	A	Length of the field

18	GLO.CONSTANT	A	If the value to be passed to this T24 field is a constant, data should be entered here.
19	FIELD.SOURCE	A	This field will decide whether the value to be passed is a constant or a part of the message or external or routine
20	FIELD.SRC.VALUE	A	This field will hold the routine name if a routine is specified in FIELD.SOURCE. Customized routines can be attached here for passing the value to the GLO.FLD.NAME. Click here for a sample screenshot.
21	RES.Y.N	A	This field holds the value of Y or N decides Currently not used. For future use purpose.
22	ERROR.CONV.TAB	A	For future use in error –mapping
23	TYPE.OF.TXN	A	This field holds the value of ENQ or FIN Decides whether the transaction is Financial or Enquiry. Mandatory field for non-financial request mapping record with value as ENQ.
24	TXN.CODE	A	For future use
25	XX.LOCAL.REF	A	For future use for local references
26	RESERVED.FIELDS		Reserved fields for future use.

TABLE 2 – INTRF.MAPPING

DETAILED FIELD DESCRIPTION:

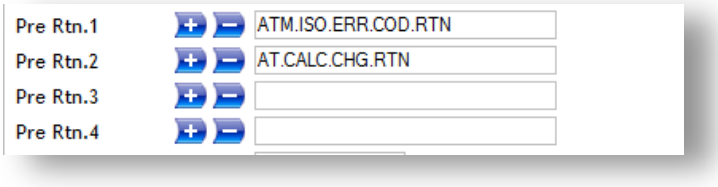


FIGURE 5. PRE.RTN IN INTRF.MAPPING

This is a multivalve set. Customized hook routines can be attached here, which will trigger during the request phase or response phase based on the Message Type set. Routine should have one argument value passed inside in case of attaching routine at the response mapping record e.g. ATM.ISO.ERR.COD.RTN (ISO.MESSAGE).

Sample Scenario:

In Balance Enquiry Request message, above routine formats the balance to be sent in Field 54. Client can attach a new format routine based on his requirement and change the balance format sent to Field 54. Balance format routine should have two incoming argument and one outgoing

argument which contains the balance formatted data as per the client requirement. This routine will be triggered from No file enquiry routine for balance formation.

Sample Routine is provided below:

```
SUBROUTINE AT.ISO.FMT.BAL.RTN(Y.ACCT.NO,R.ACCT,BALANCE.FORMATTED)

    $INSERT I_COMMON
    $INSERT I_EQUATE
    $INSERT I_AT.ISO.COMMON
    $INSERT I_F.ATM.PARAMETER

    <!-- Do the Coding work to Format the balance.-->

    BALANCE.FORMATTED =ACC.TYPE:WRK.AMT.TYPE:NUM.CCY:AVAIL.BAL.SIGN:AVAIL.BAL:ACC.TYPE:LED.AMT.TYPE:NUM.CCY:LED.BAL.SIGN:LED.BAL

    RETURN
END
```

In Case of Mini statement Request message, above routine formats the mini statement to be sent in field 48. Client can attach a new format routine based on his requirement and change the Mini statement format sent to Field 48. Mini statement format routine should have three incoming argument and one outgoing argument which contains the mini stamen detail with formatted data as per the client requirement. This routine will be triggered from No file enquiry routine for mini statement formation.

Sample Routine is provided below:

```
    SUBROUTINE AT.ISO.MINI.FMT.RTN(REQ.NO.OF.STMTS,Y.ACCT.NO,R.ACCT,TXN.DETLS.DETS)

    $INSERT I_COMMON
    $INSERT I_EQUATE
    $INSERT I_AT.ISO.COMMON
    $INSERT I_F.ATM.PARAMETER

    <!-- Do the Coding work to Format the Mini statement details.-->

    ONE.LINE = Y.DT.TXN:NUM.CCY:Y.SIGN:Y.TXN.AMT
    STMT.TXT<-1> = ONE.LINE

    RETURN
END
```

Note: For **Separate/Multiple** charges transaction entries, we are using generic routine **AT.POST.CHG.TXN.RTN** for raising entries and **AT.REV.CHG.TXN.RTN** [for reversal mapping records alone] for reversing entries. These routines have to be attached in PRE.RTN of corresponding Response Mapping Records. These routines will be triggered based on the parameterization done in ATM.CHG.TABLE and ATM.SPLIT.CHG.TABLE.

GO BACK

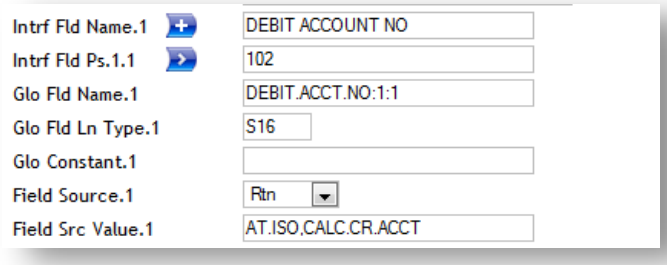


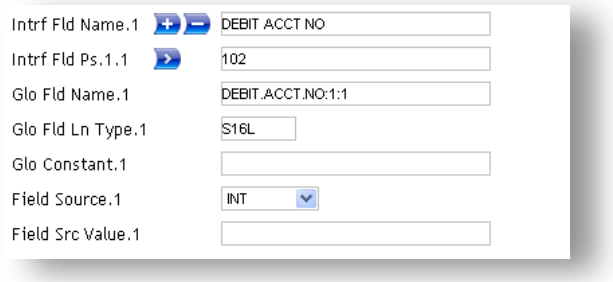
FIGURE 6. FIELD.SRC.VALUE IN INTRF.MAPPING

If FIELD.SOURCE is set as RTN, then Routine must be attached in FIELD.SRC.VALUE. The outcome value of the routine will be assigned to its respective GLO.FLD.NAME value. Routine must have two arguments passed inside e.g. AT.ISO.CALC.CR.ACCT (INCOMING, OUTGOING).

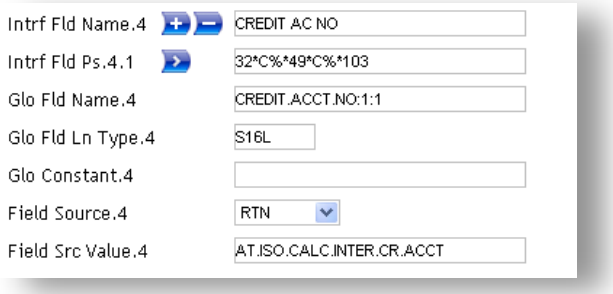
Sample Scenario:

For Inter Bank Funds transfer, we need Debit and Credit Acct no's for raising FT Entry.

Below snapshot provides an idea about configuring values for Debit and Credit Account numbers.



If a value from incoming ISO Message is to be passed directly into DEBIT.ACCT.NO, then **Intrf Fld Ps** can be set to its respective incoming position (102) and its **Field Source** can be set as INT.



If a value has to be fetched based on incoming ISO Message positions, then those values can be placed in **Intrf Fld Ps** like this: 32*C%*49*C%*103.

32,49 and103 – Represents the incoming ISO Message position

C – Represents the specifying the constant value in the part of incoming value. Generally used to include the Delimiter value"%" between different value position.

% - it's the constant value which is used as delimiter.

Field Source should be set as RTN.

Field Src Value should have the Routine name.

Sample Scenario:

If ISO position 32, 49 and 103 has below values

32nd – 123456, 49th – 840, 103 – 43268.

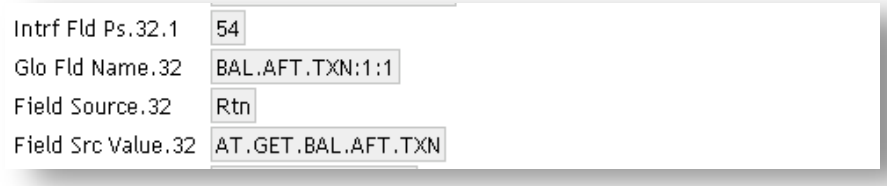
The incoming variable (first argument) will hold the value as "123456%840%43268". Second argument will hold the actual account number for the particular T24 OFS field (defined in the Glo Fld Name)

Sample Routine is provided as below:

```
    SUBROUTINE AT.ISO.CALC.INTER.CR.ACCT(ATM.ID,CREDIT.ACCT.NO)

    $INSERT I_COMMON
    $INSERT I_EQUATE
    $INSERT I_AT.ISO.COMMON
    $INSERT I_F.ATM.PARAMETER

     BIN.NO = FIELD(ATM.ID,'%',1)
     ATM.CCY= FIELD(ATM.ID,'%',2)

     <!-- Do the coding based on the incoming arguments and fetch the Credit Acct no -->

    CREDIT.ACCT.NO = Fetched Value by above codes.

    RETURN
END
```

GO BACK

Note: If separate charges are going to be configured in framework, **AT.GET.BAL.AFT.TXN** has to be attached in **FieldSrc Value** and **Field Source** should be set as RTN for all response mapping records. If this routine is attached, then account balance after charges will be reflected in the balance field.



For info related to charges, Click Here

5.3 ATM.PARAMETER

This is a mapping file, which stores the various details like the T24 application, user name, password and version to be used, the mapping between each message field to T24 application field.

File Type: H

File Classification: INT

ATM.PARAMETER field description and Population Type

NO	Field Name	Type	Description
1	BANK.IMD	N	This is a mandatory field which stores the Acquirer Id for the bank.
2	NETWORK.IMD	A	This is an Optional field which is used to include the network groups(IMD) in bank own network (apart from BANK.IMD value).
3	FILE.TYPE	A	Stores the name of the file type used for processing balances like VISA PROCESS, BALANCE FILE
4	FILE.NAME	A	This will store the file name that is used to upload the balances before EOD.

5	FILE.PATH	A	This is the path where the balance upload file is to be stored.
6	DAYS.IN.HIST		Days before the log file are to be archived. User has to input it as e.g.:+5C.
7	OFS.USER	A	User Sign on to be used by OFS.
8	OFS.PASSWORD	PASSWD	Password of the user entered above.
9	DEF.ATM.BRANCH	N	If Terminal Id was not configured in ATM.BRANCH, then default Terminal id stored here will be taken and processed.
10	DEF.ATM.BIN	N	If Other Bank's Bin was not configured in ATM.BIN.ACCT, then default bin stored here will be taken and processed.
11	DEF.POS.MRCNT	N	If any Bank owned POS device id was not configured in ATM.POS.MERCHANT.ACCT, then default device id stored here will be taken and processed.
12	DEF.POS.BIN	N	If Other Bank's Pos Device Id was not configured in ATM.POS.BIN.ACCT, then default device id stored here will be taken and processed.
13	CHG.CCY.POS	N	Currency position for raising charge entries
14	TXN.CCY.POS	N	Transaction currency field position for raising accounting entries.
15	MSG.ID	A	This is a mandatory field stores the type of ISO Message format used for validating the incoming requests. IF 5002 is set, then BASE24 based Messages can be posted. If 5003 is set, then standard ISO Messages can be posted. If 5004 is set, then PHOENIX based messages can be posted.
16	UNIQUE.ID	A	ISO Message Fields will be stored here. Data from these fields will be generated as Unique Id for each transaction.
17	GEN.COM.CODE	A	Default Company Code.
18	LOCK.PERIOD	N	For Authorization request transactions, the lock period mentioned will be used for locking the amount. User has to input it as e.g.:+10C.
19	DUAL.TXN.ID	A	ISO Message Fields will be stored here .Unique id for releasing the locked amount and raising accounting entry. Customized routine can also be attached here. Click here for a sample screenshot.
20	CHG.OFS.SOURC	A	OFS SOURCE stored here can be used for raising charges or can be used in any customized hook

			routines for raising Separate Transactions.
21	ATM.GEN.MSG.ID	A	This field stores the type of ISO Message skeleton to be used for initiating ISO Message from T24 host.
22	ATM.GEN.API.ID	A	This field stores java EB.API for connecting to third party system from T24 host.
23	PHX.BAL.FMT.TYPE**	A	This field used only in PHOENIX Interface. If ACTUAL is set, then Actual Balance alone will be sent for all transactions. If AVAILABLE is set, then Available Balance alone will be sent for all transactions. If BOTH is set, Actual and Available balance will be sent for all transactions.
24	LOCAL.REF		For future use for local references
25	RESERVED.FIELDS		Reserved fields for future use.

TABLE 3 – ATM.PARAMETER

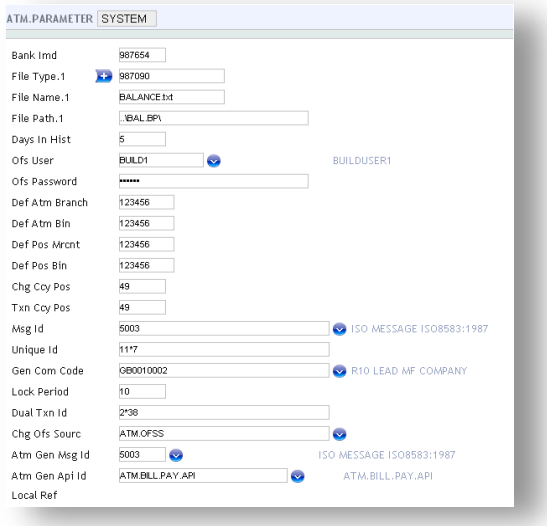


FIGURE 7. ATM.PARAMETER

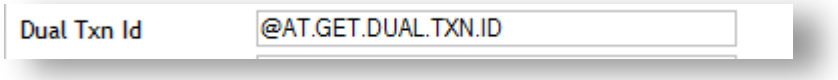


FIGURE 8. DUAL.TXN.ID IN ATM.PARAMETER

This field stores the incoming ISO data position or routine. If customized routine is attached, then the Unique Dual transaction Id must be generated by the routine, which is used for releasing the locked amount and raising a transaction. Routine must be prefixed with @ before the routine name. Routine should have one argument value passed inside e.g. AT.GET.DUAL.TXN.ID (REQUEST).

GO BACK

5.4 ATM.BRANCH

This file stores the details like which ATM belongs to which branch and Company in T24. Id of each record is formed based on the Terminal Id sent in ISO Message.

File Type: H

File Classification: INT

ATM.BRANCH field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	COMPANY.CODE	COM	This field stores the Company Code where the ATM terminal belongs.
3	DEF.CR.ACCT	A	Default Internal account for dispensing the cash if USE.DEF.ACCT is set to YES.
4	PROC.CODE	A	Contains different Processing codes, required for dispensing cash via ATM Terminal.
5	CR.CCY	A	Currency code
6	CR.ACCT	A	Credit account for the specific currency mentioned above. This Internal account is used if USE.DEF.ACCT is set to No.
7	USE.DEF.ACCT	A	If set to YES, account stored in DEF.CR.ACCT will be used. If set to NO, account stored based on currency will be proceeded.
8	LOCAL.REF		For future use for local references
9	RESERVED.FIELDS		Reserved fields for future use.

TABLE 4 – ATM.BRANCH

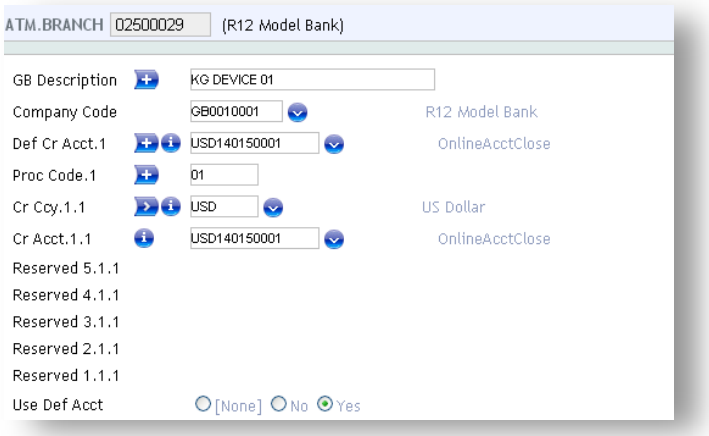


FIGURE 9. ATM.BRANCH

5.5 ATM.BIN.ACCT

This file stores the details like receivable and payable accounts for visa/master card transactions. Id of each record is formed based on the Acquirer bin of other banks or first 6 digit of PAN No.

File Type: H

File Classification: INT

ATM.BIN.ACCT field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	DEF.PAY.ACCT	A	This field contains the Internal account. This account will be processed when USE.DEF.ACCT is set to Yes and T24 customer goes to other bank terminal and performs the transaction.
3	DEF.RECV.ACCT	A	This field contains the Internal account. This account will be processed when USE.DEF.ACCT is set to Yes and Other bank customer performs the transaction in T24 Terminal.
4	PROC.CODE	A	This is a multivalve set. Can configure different processing codes.
5	ACCT.CCY	A	Currency code
6	PAY.ACCT	A	This field contains the Internal account. This account will be processed when USE.DEF.ACCT is set to No and T24 customer goes to other bank terminal and performs the transaction.
7	RECV.ACCT	A	This field contains the Internal account. This account will be processed when USE.DEF.ACCT is set to No and Other bank customer performs the transaction in T24 Terminal.
8	USE.DEF.ACCT	A	If set to YES, account stored in PAY/RECEIVE account no will be used. If set to NO, account stored based on currency will be proceeded.
9	LOCAL.REF		For future use for local references
10	RESERVED.FIELDS		Reserved fields for future use.

TABLE 5 – ATM.BIN.ACCT

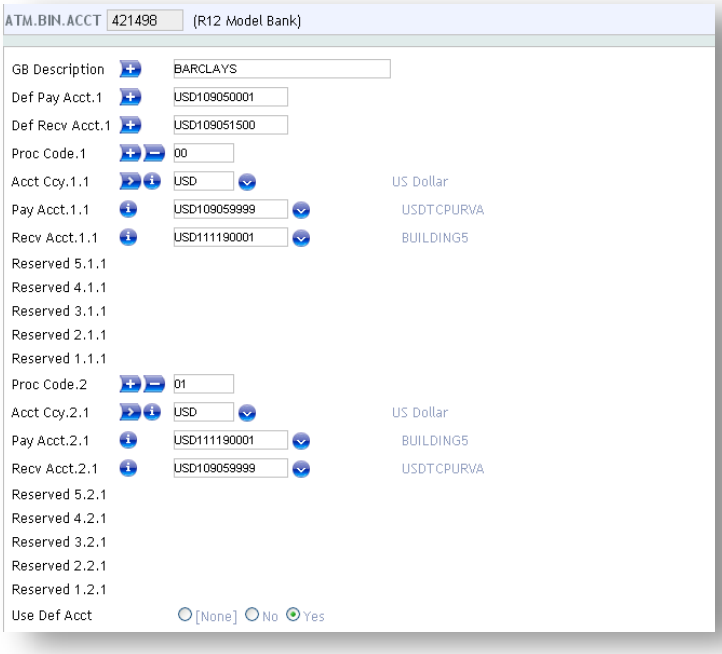


FIGURE 10. ATM.BIN.ACCT

5.6 ATM.UTIL.TABLE

This file stores the details for Utility Payments. Record Id can be based on any incoming data from ISO Message or a constant name based on client's requirement.

File Type: H

File Classification: INT

ATM.UTIL.TABLE field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	COMPANY.CODE	COM	This field stores the Company Code where the ATM terminal belongs.
3	UTIL.CCY	A	Currency code
4	UTIL.ACCT	A	This field contains the Internal account.
5	LOCAL.REF		For future use for local references
6	RESERVED.FIELDS		Reserved fields for future use.

TABLE 6 – ATM.UTIL.TABLE

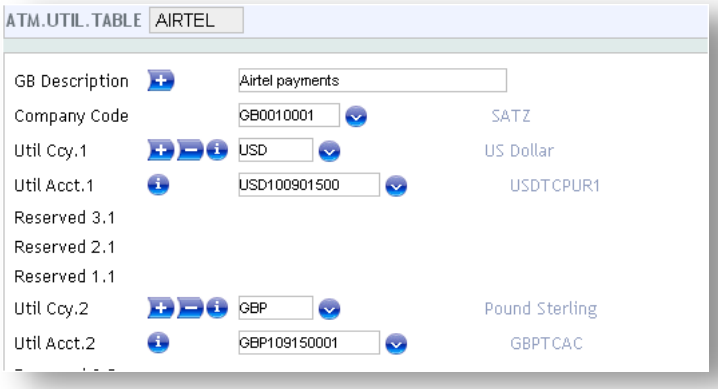


FIGURE 11. ATM.UTIL.TABLE

5.7 ATM.POS.MERCHANT.ACCT

This file stores the details like company code, account for POS based transactions. Id of each record is formed based on the POS device Id sent in ISO Message.

File Type: H

File Classification: INT

ATM.POS.MERCHANT.ACCT field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	COMPANY.CODE	COM	This field stores the Company Code where the ATM terminal belongs.
3	DEF.MER.ACCT	A	Default Credit account number will used, if USE.DEF.ACCT is set to YES.
4	PROC.CODE		Contains different Processing codes, required for raising entries via POS Devices.
5	ACCT.CCY	A	Currency code
6	MER.ACCT	A	Credit account for the specific currency mentioned here. This account will be used if USE.DEF.ACCT is set as NO
7	USE.DEF.ACCT	A	If set to YES, account stored in DEF.CR.ACCT will be used. If set to NO, account stored based on currency will be proceeded.
8	LOCAL.REF		For future use for local references
9	RESERVED.FIELDS		Reserved fields for future use.

TABLE 7 – ATM.POS.MERCHANT.ACCT

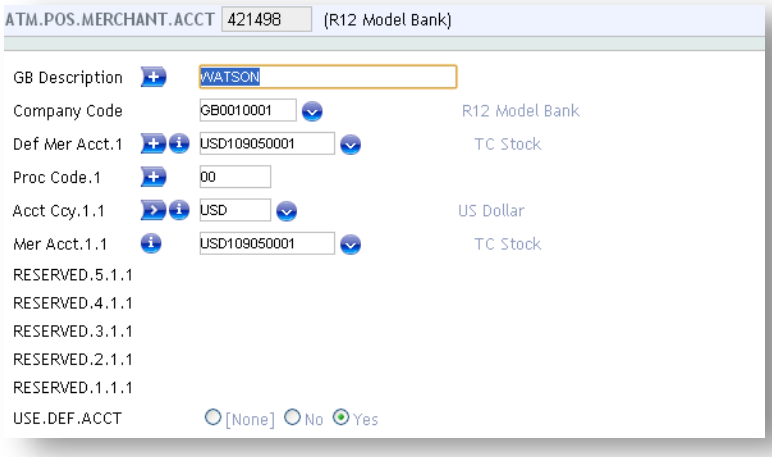


FIGURE 12. ATM.POS.MERCHANT.ACCT

5.8 ATM.POS.BIN.ACCT

This file stores the details like receivable and payable accounts for POS based transactions. Id of each record is formed based on the Acquirer bin of other banks or first 6 digit of PAN No.

File Type: H

File Classification: INT

ATM.POS.BIN.ACCT field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	DEF.PAY.ACCT	A	This field contains the Internal account. This account will be processed when USE.DEF.ACCT is set to Yes and T24 customer goes to other bank POS and performs the transaction.
3	DEF.RECV.ACCT	A	This field contains the Internal account. This account will be processed when USE.DEF.ACCT is set to Yes and Other bank customer performs the transaction in T24 POS.
4	PROC.CODE	A	This is a multivalve set. Can configure different processing codes.
5	ACCT.CCY	A	Currency code
6	PAY.ACCT	A	This field contains the Internal account. This account will be processed when USE.DEF.ACCT is set to No and T24 customer goes to other bank POS and performs the transaction.
7	RECV.ACCT	A	This field contains the Internal account. This account will be processed when USE.DEF.ACCT

			is set to No and Other bank customer performs the transaction in T24 POS.
8	USE.DEF.ACCT	A	If set to YES, account stored in PAY/RECEIVE account no will be used. If set to NO, account stored based on currency will be proceeded.
9	LOCAL.REF		For future use for local references.
10	RESERVED.FIELDS		Reserved fields for future use.

TABLE 8 – ATM.POS.BIN.ACCT

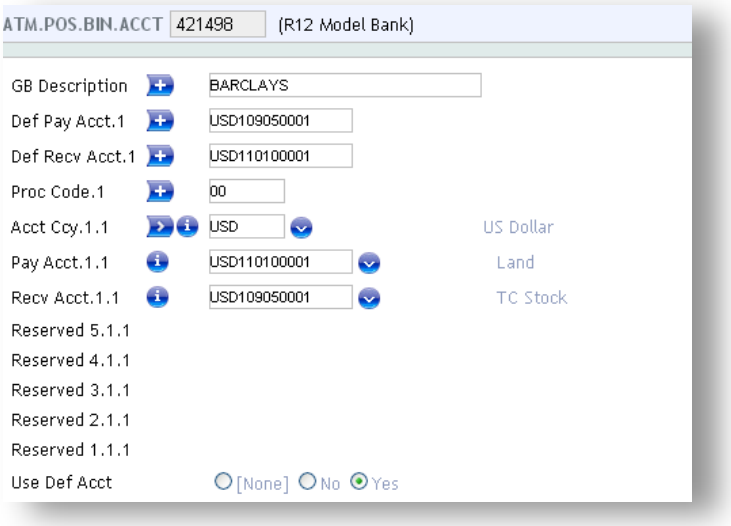


FIGURE 13. ATM.POS.BIN.ACCT

5.9 ATM.TRANSACTION

This is a live file which stores the details of transactions like FT/ACKL reference number which got generated, date, transaction amount, credit account, currency and other data's required for reversing transactions. ID of each record is formed, based on the Unique ID data got from ISO Message.

File Type: L

File Classification: INT

ATM.TRANSACTION field description and Population Type

NO	Field Name	Type	Description
1	TRANS.REF	A	Unique FT/ACKL Id generated for each transaction
2	COMPANY.CODE	COM	This field stores the Company Code where the transaction happens
3	VALUE.DATE	D	Stores the transaction Date

4	BOOKING.DATE	D	Stores the transaction Date
5	DEBIT.ACCT.NO	A	Stores the debited account no
6	DR.CUSTOMER.ID	A	Stores debited customer account number
7	CREDIT.ACCT.NO	A	Stores Credit account number.
8	TXN.AMOUNT	AMT	Stores the transacted amount.
9	DR.TXN.CODE	A	Stores Debit transaction code
10	CR.TXN.CODE	A	Stores Credit transaction code
11	CHARGE.CODE	A	Stores the charge type
12	CHRG.AMOUNT	AMT	Stores the charged amount
13	CHRG.ACCOUNT	A	Stores the charged account
14	CHRG.CUST.ID	A	Stores the customer no from whom charges is collected
15	CHRG.CR.ACCT	A	Stores the credit account to which charge amount is credited
16	CHRG.DR.TXN.CODE	A	Stores the charged Debit transaction code
17	CHRG.CR.TXN.CODE	A	Stores the charged Credit transaction code
18	NARRATIVE	A	Stores the Narrative of the Transaction happened
19	CURRENCY.MARKET	A	Stores the currency market
20	TRANS.STATUS	A	Stores whether the transaction is PROCESSED or REVERSED or LOCKED.
21	REVERSAL.FLAG	A	Stores 'YES' if Transaction is reversed.
22	ORIG.STMT.NOS	A	Stores the STMT Entries rose during the transaction and update the STMT entries when raised during the reversal.
23	STMT.NOS	A	Stores the STMT Entries raised during the transaction.
24	NETWORK.TYPE	A	For future use.
25	BIN.REFERENCE	A	Stores whether the Acquirer bin sent in ISO Message
26	PAN.NUMBER	A	Stores the PAN Number sent in ISO Message
27	LOCKED.AMOUNT	AMT	Stores the amount locked during Authorization request.

28	LINKED.TRANS	A	For future Use
29	AUTH.CODE	A	Stores the Unique Auth Code generated for each transaction.
30	RETRIEVAL.REF.NO	A	Stores the Retrieval Reference Number sent in ISO Message
31	ACQ.OR.ISS	A	Stores whether the Transaction is Acquirer or Issuance.
32	ATM.OR.POS	A	Stores whether the transaction is happened through ATM or POS
33	MTI.CODE	A	Stores the MTI of each transaction sent in ISO Message
34	PROC.CODE	A	Stores the Processing code of each transaction sent in ISO Message
35	MERCHANT.ID	A	Stores the Merchant Id of each transaction sent in ISO Message
36	VERSION.NAME	A	Stores the Version and its Application used for processing the transaction
37	CARD.ACC.ID	A	Stores the Terminal/POS device Id of each transaction sent in ISO Message
38	CARD.ACC.NAME.LOC	A	Stores the Merchant/Terminal location of each transaction sent in ISO Message
39	CHRG.TRANS.REF	A	Stores the Unique FT/ACKL Id generated.
40	CHRG.DEBIT.AC	A	Stores the Charges Debit Account No
41	CHRG.CREDIT.AC	A	Stores the Charges Credit Account No
42	CHRG.AMT	AMT	Stores the Charged Amount.
43	CHRG.STMT.NOS	A	Stores the charges STMT entries raised during the transaction.
44	ERROR.MSG	A	For Future Use.

TABLE 9 – ATM.TRANSACTION

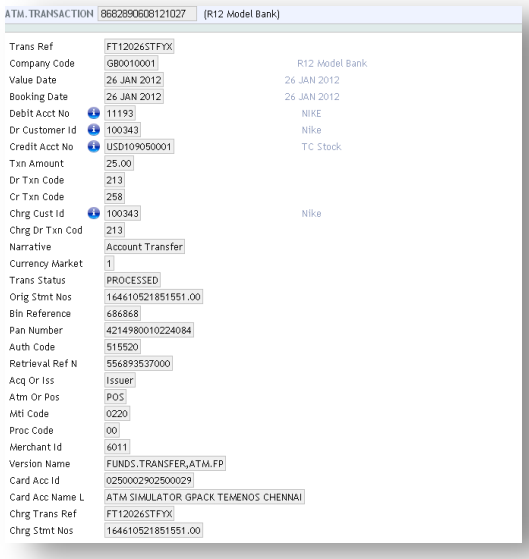


FIGURE 14. ATM.TRANSACTION

5.10 ATM.DUAL.TRANSACTION

This is a live file which stores unique id for Authorization request. Id of the record is formed based on DUAL.TXN.ID provided in ATM.PARAMETER.

File Type: L

File Classification: INT

ATM.DUAL.TRANSACTION field description and Population Type

NO	Field Name	Type	Description
1	ATM.TXN.ID	A	Stores the Unique ID of each transaction

TABLE 10 – ATM.DUAL.TRANSACTION

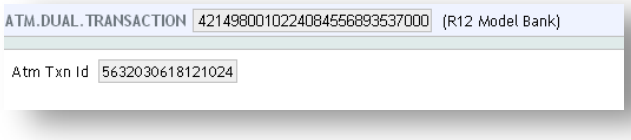


FIGURE 15. ATM.DUAL.TRANSACTION

5.11 ATM.RES.CODE.TABLE

This file contains the Errors/Overrides and its response codes which has to be triggered, when a transaction is not successful.

File Type: H

File Classification: INT

ATM.RES.CODE.TABLE field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	MESSAGE	A	Contains the Overrides/Errors that occurs in T24
3	RESPONSE.CODE	A	Contains the specific response code for the
4	PASS.RESP.CODE	A	Response code to be sent if a transaction is Successful
5	FAIL.RESP.CODE	A	Default response code to be sent if a transaction gets failed
6	LOCAL.REF		For future use for local references.
7	GEN.ERR.MSG	A	Error messages for T24 initiated messages.
8	GEN.RESP.CODE	A	Default response code for T24 initiated messages.
9	RESERVED.FIELDS		Reserved fields for future use.

TABLE 11 – ATM.RES.CODE.TABLE

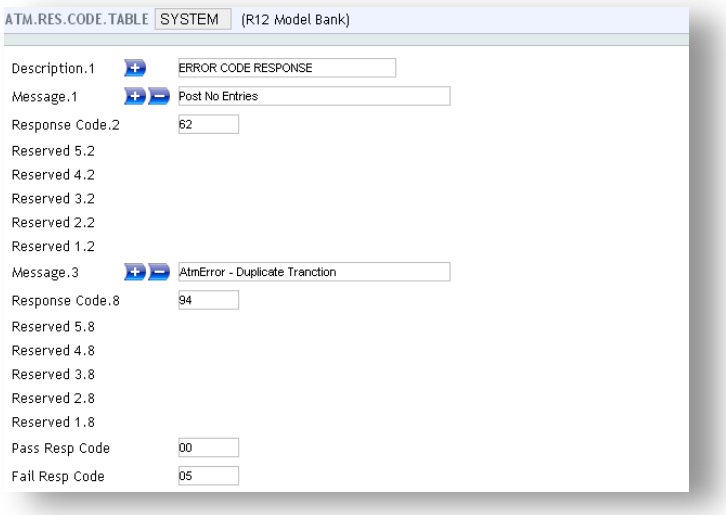


FIGURE 16. ATM.RES.CODE.TABLE

5.12 ATM.STMT.REQ

This file stores the Statement requests raised each day. Id of this table is Unique Id data got from ISO Message.

File Type: H

File Classification: INT

ATM.STMT.REQ field description and Population Type

NO	Field Name	Type	Description
1	ACCT.NO	A	Customer account no
2	CUSTOMER.ID	A	Contains customer number
3	REQ.DATE	A	Stores the requested date
4	REQ.STATUS	A	Stores whether the requested status is in REQUEST status or UPDATED status.
5	STMT.PERIOD	A	requested statement period requested
6	LOCAL.REF		For future use for local references.
7	RESERVED.FIELDS		Reserved fields for future use.

TABLE 12 – ATM.STMT.REQ

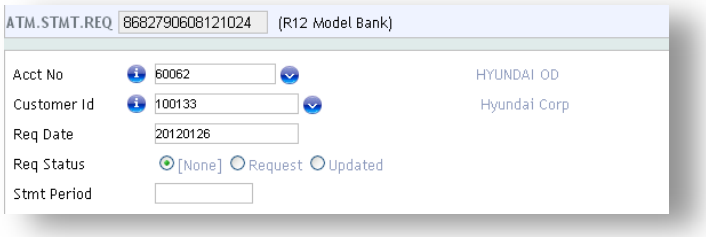


FIGURE 17. ATM.STMT.REQ

5.13 RAD.LOG.PARAMETER

This file is used for processing the requests and response in a particular file as xml format.

File Type: H

File Classification: INT

RAD.LOG.PARAMETER field description and Population Type

NO	Field Name	Type	Description
1	DESC	A	Description for the table, free field.
2	LOG.TYPE	A	Stores whether the log type is DUMP or LOG4J
3	LOG.LEVEL	A	Stores whether log level is DEBUG or INFO or WARN or ERROR or FATAL
4	FILE.LISTENER.PATH	A	Stores the file path where the incoming ISO requests are stored.

5	LOCAL.REF		For future use for local references.
6	RESERVED.FIELDS		Reserved fields for future use.

TABLE 13 – RAD.LOG.PARAMETER

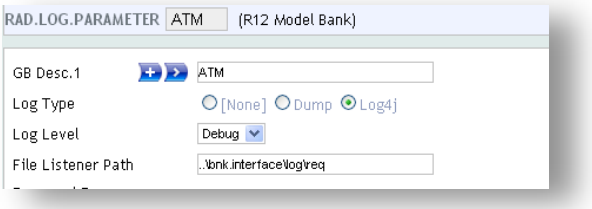


FIGURE 18. RAD.LOG.PARAMETER

5.14 ATM.CHG.TABLE

This file is used for raising charges for all transactions. Record ID should be 'SYSTEM'

File Type: W

File Classification: INT

ATM.CHG.TABLE field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	CHG.CHANNEL	A	Stores the type of charge. ONLINE or PARAM or RTN. ONLINE - Amount will be taken from the ISO Message position defined in CHG.AMT.POSN field. PARAM - Amount and other fields has to be configured for raising entries. RTN – Routine has to be attached for raising charges. Click Here for sample screenshot.
3	FLD.POS.RTN	A	If RTN is selected above, then Routine has to be attached here with @ before the routine name. Click Here for sample screenshot.
4	CHG.ID.RULE	A	Stores the Charge ID rule. Rule id can be: MTI or PROC or BIN or MTI.PROC or MTI.PROC.BIN or MTI.PROC.BIN.CCY
5	CHARGE.DESC	A	Description for the table, free field.
6	SEPARATE.FT	A	YES or NO. If set to YES. Separate FT can be raised. If set to NO, data's provided in the table will be sent in the Main OFS Request.
7	TRAN.MTI	A	Message Type Indicator of the ISO Message.

8	PROC.CODE	A	Processing Code for the ISO Message.
9	BIN.NO	A	BIN No which has to be charged.
10	TXN.CCY	A	Stores the Currency.
11	SPLIT.CHG.ID	A	This field stores the record's Id which will be created in ATM.SPLIT.CHG.TABLE
12	CHG.AMT	A	Stores the Amount to be charged.
13	CHG.AMT.POSN	A	Stores the Amount position which is passed in ISO Message.
14	CHG.PERC	A	Stores the Percentage of amount to be charged.
15	CHARGE.TYPE	A	Stores the Commission type record name.
16	DR.ACCT.TYPE	A	Stores whether the Account type is CUST or IA. If **IA** is set, then **Charges** will be triggered by routine attached in INTRF.MAPPING. For More Info, Click Here.
17	CHG.DR.ACCT	A	Stores the Debit Account Number. This field is mandatory if DR.ACCT.TYPE is set as **IA**.
18	CHG.CR.ACCT	A	Stores the Credit Account Number.
19	CHG.VERSION	A	Stores the Version used for raising charges.
20	LOCAL.REF		For future use for local references.
21	RESERVED.FIELDS		Reserved fields for future use.

TABLE 15 – ATM.CHG.TABLE

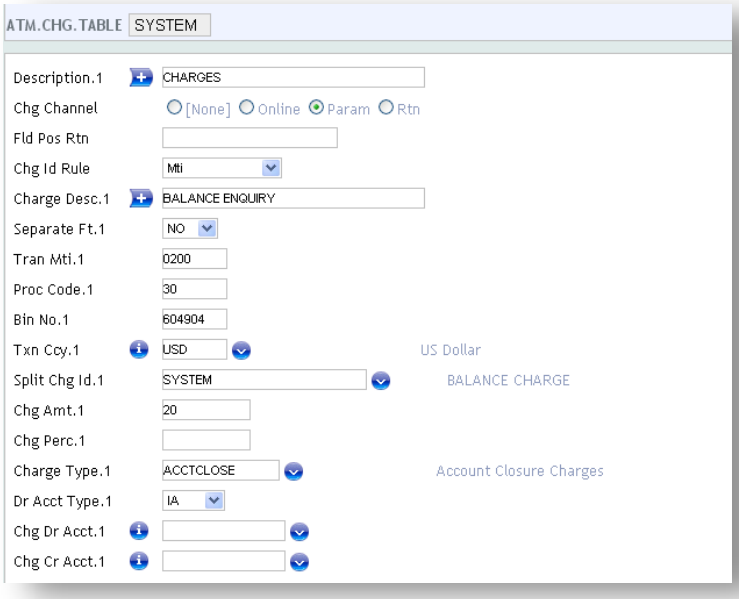


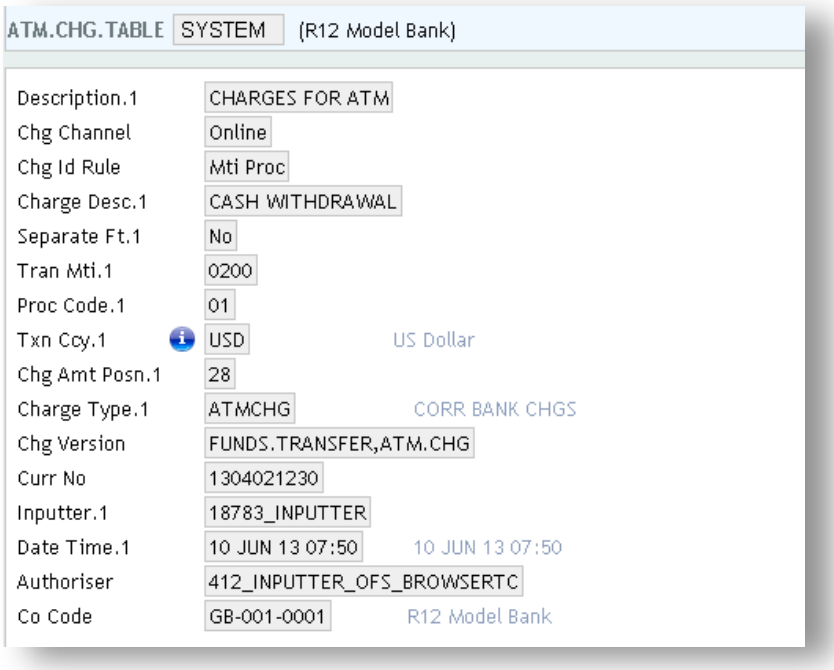
FIGURE 19. ATM.CHG.TABLE

DETAILED FIELD DESCRIPTION:

FIGURE 20. FLD.POS.RTN IN ATM.CHG.TABLE

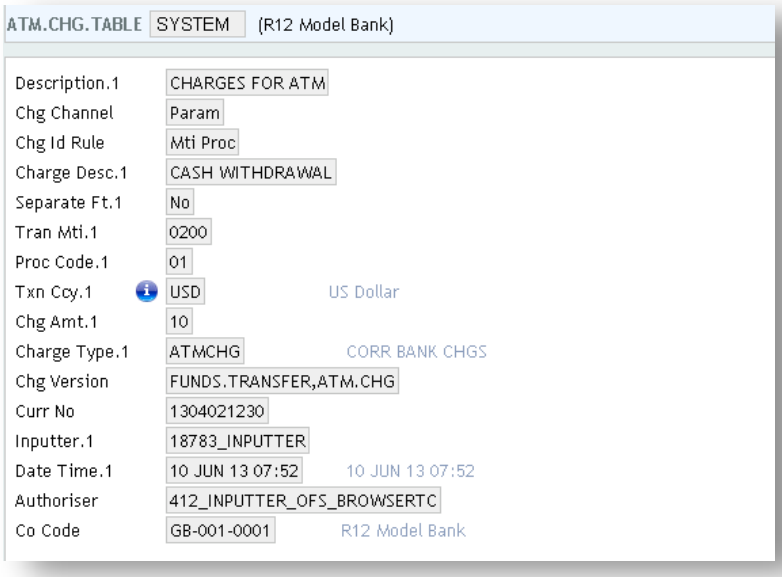
If **Online** is selected, then the Field having the Charge amount in ISO MESSAGE have to be configured in ATM.CHG.TABLE

Sample screenshot is provided below



If **Param** is selected, then CHG.RULE.ID has to be configured based on client's need and charge amount nor charge percent can be configured there.

Sample screenshot is provided below



If **RTN** is selected, then Framework will trigger the routine attached in FLD.POS.RTN through **CHECK.REC.RTN** field in Version. There should be no arguments passed inside the attached Routine.

Sample Routine is provided as below:

```
SUBROUTINE AT.GET.CHG.VALUE

$INSERT I_COMMON
$INSERT I_EQUATE
$INSERT I_F.FUNDS.TRANSFER


R.NEW(FT.CHARGE.TYPE)<1,1> = R.ATM.CHG.DETAIL<AT.CHG.CHARGE.TYPE>

 RETURN
```

This function doesn't support split charges or any setup level charges in ATM.CHG.TABLE. If user wishes to use RTN, then User has to raise all the charges by himself. Framework will just trigger the routine.

GO BACK

Note: After configuring the charges, the record should be **verified** using "V" function to update the concated table ATM.CHG.DETAIL based on the CHG.ID.RULE.

If **multiple charges** have to be configured, configure all the charges in **ATM.SPLIT.CHG.TABLE**.

IF **SEPARATE.FT** is set to YES, then Separate FT will be raised for charges independent of the Main FT.

5.15 ATM.CHG.DETAIL

This is a LIVE file. The data's from ATM.CHG.TABLE will be written here based on the **CHG.ID.RULE** provided.

File Type: L

File Classification: INT

ATM.CHG.DETAIL field description and Population Type

NO	Field Name	Type	Description
1	CHARGE.DESC	A	Description for the table, free field.
2	SEPARATE.FT	A	YES or NO. If set to YES. Separate FT will be raised else the data's provided below will be sent in the Main OFS Request.
3	TRAN.MTI	A	Message Type Indicator of the ISO Message.
4	PROC.CODE	A	Processing Code for the ISO Message.
5	BIN.NO	A	BIN No which has to be charged.
6	TXN.CCY	A	Stores the Currency.
7	SPLIT.CHG.ID	A	This field stores the record's Id which will be created in ATM.SPLIT.CHG.TABLE
8	CHG.AMT	A	Stores the Amount to be charged.

9	CHG.AMT.POSN	A	Stores the Amount position which is passed in ISO Message.
10	CHG.PERC	A	Stores the Percentage of amount to be charged.
11	CHARGE.TYPE	A	Stores the Commission type record name.
12	DR.ACCT.TYPE	A	Stores whether the Account type is CUST or IA.
13	CHG.DR.ACCT	A	Mandatory Field, if DR.ACCT.TYPE is set as **IA** Stores the Debit Account Number.
14	CHG.CR.ACCT	A	Mandatory Field. Stores the Credit Account Number.
15	LOCAL.REF		For future use for local references.
16	RESERVED.FIELDS		Reserved fields for future use.

TABLE 16 – ATM.CHG.DETAIL

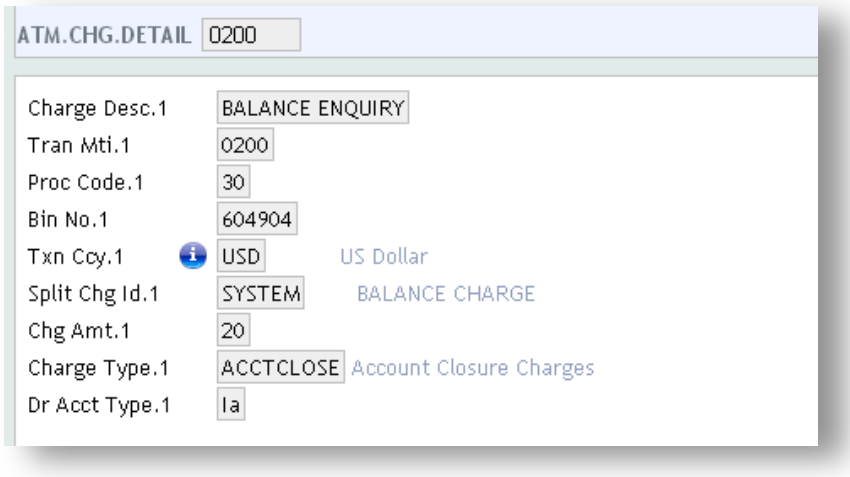


FIGURE 21. ATM.CHG.DETAIL

5.16 ATM.SPLIT.CHG.TABLE

This file is used for raising multiple charges entry raised for single transaction. ID would be any free text.

File Type: H

File Classification: INT

ATM.SPLIT.CHG.TABLE field description and Population Type

NO	Field Name	Type	Description
1	CHARGE.DESC	A	Description for the table, free field.
2	CHARGE.TYPE	A	Stores the Commission type record name.

3	CHG.TXN.CCY	A	Stores the Currency.
4	CHG.AMT	A	Stores the Amount to be charged
5	CHG.PERC	A	Stores the Percentage of amount to be charged
6	DR.ACCT.TYPE	A	Stores whether the Account type is CUST or IA.
7	CHG.DR.ACCT	A	Stores the Debit Account Number
8	CHG.CR.ACCT	A	Stores the Credit Account Number
9	LOCAL.REF		For future use for local references.
10	RESERVED.FIELDS		Reserved fields for future use.

TABLE 14 – ATM.SPLIT.CHG.TABLE

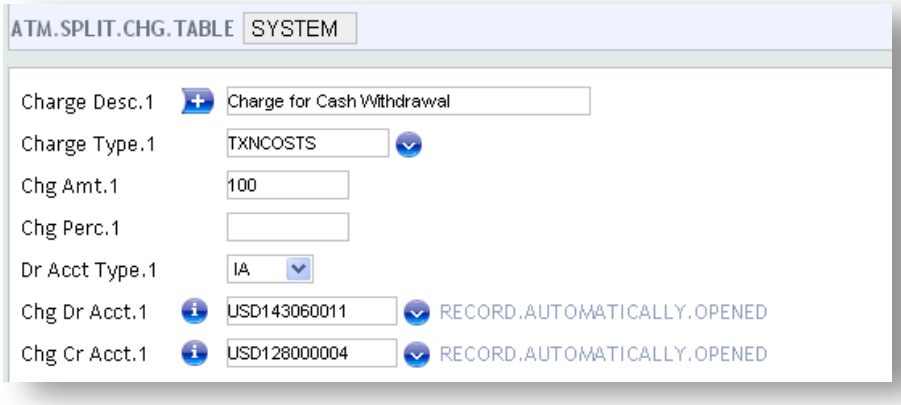
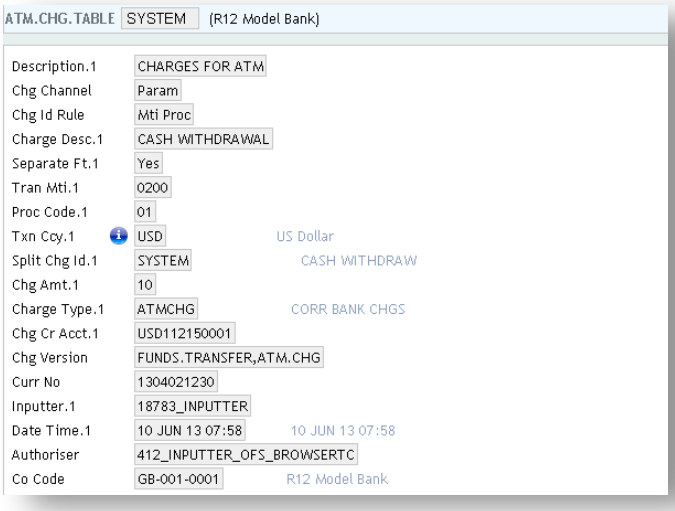


FIGURE 22. ATM.SPLIT.CHG.TABLE

Note: The record ID has to be configured in SPLIT.CHG.ID of ATM.CHG.TABLE and SEPERATE.FT has to be set to 'YES'. Sample screenshot is provided below



Note: Charges based on Percentage won't support for Balance Inquiry & Mini statement. Hence configure the charges as amount for these scenarios in ATM.CHG.TABLE & ATM.SPLIT.CHG.TABLE.

5.17 ATM.GEN.MAPPING

This is a mapping file used for forming ISO Message from T24 side. **T24 can initiate an ISO Message** based on the parameters configured in this table.

File Type: H

File Classification: INT

ATM.GEN.MAPPING field description and Population Type

NO	Field Name	Type	Description
1	DESCRIPTION	A	Description for the table, free field.
2	MSG.TYPE	A	Informative field displays whether the mapping is for Request, Response or Error
3	APPLICATION	A	Valid T24 application
4	OFS.FUNCTION	A	Holds the OFS function.
5	OFS.OPERATION	A	Holds the Processing Flag of either PROCESS or VALIDATE.
6	OFS.UTIL.NAME	A	This field will hold the version name or enquiry name to be used by OFS.
7	OFS.COM.CODE	A	This field holds routine which loads the Company. If CUST is selected in above field, then Company Id is loaded based on customer account. If ATM is selected, then Company Id is loaded based on Company code configured in Terminal
9	ID.GEN	A	Will accept Y or N contains information about the id of the application being updated by OFS.
9	OFS.USER	A	User Sign on to be used by OFS.
10	OFS.PASSWORD	PASSWD	Password of the user entered above.
11	RES.MAP.ID	A	Response mapping id for the request
12	ERROR.MAP.ID	A	Response mapping id for the request
13	INTRF.FLD.NAME	A	This is a multivalve set. Interface field name (Part of the message, descriptive) is provided here.
14	INTRF.FLD.PS	A	Position of this field within the message.
15	APPL.FLD.NAME	A	Corresponding T24 application field name
16	GLO.FLD.NAME	A	Corresponding T24 application field name given in OFS Format

17	GLO.FLD.LN.TYPE	A	Length of the field
18	GLO.CONSTANT	A	If the value to be passed to this T24 field is a constant, data should be entered here.
19	FIELD.SOURCE	A	This field will decide whether the value to be passed is a constant or a part of the message or external or routine
20	FIELD.SRC.VALUE	A	This field will hold the routine name if a routine is specified in FIELD.SOURCE. Customized routines can be attached here for passing the value to the GLO.FLD.NAME. Click here for a sample screenshot.
21	RES.Y.N	A	This field holds the value of Y or N decides Whether this message type has a valid response. Not Used.
22	ERROR.CONV.TAB	A	For future use in error –mapping
23	TYPE.OF.TXN	A	This field holds the value of ENQ or FIN decides whether the transaction is Financial or Enquiry
24	TXN.CODE	A	For future use
25	XX.LOCAL.REF	A	For future use for local references
26	RESERVED.FIELDS		Reserved fields for future use.

TABLE 17 – ATM.GEN.MAPPING

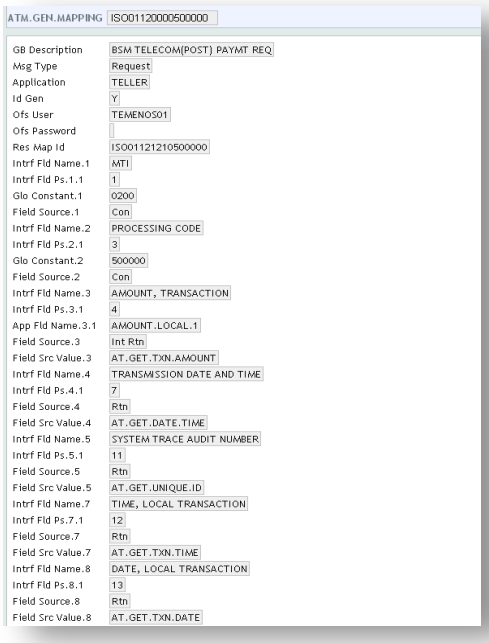
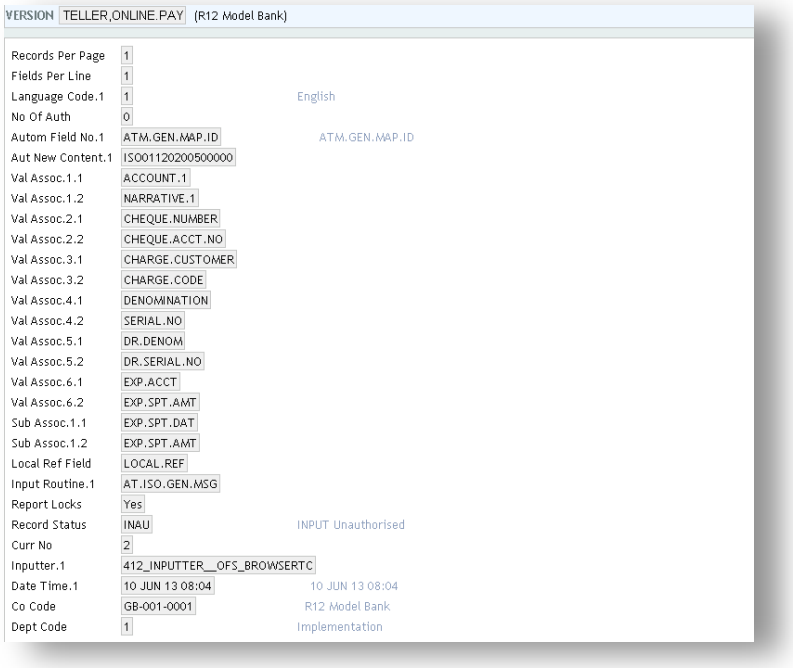


FIGURE 23. ATM.GEN.MAPPING

Sample Scenario:

AT.ISO.GEN.MSG is a generic routine used for forming ISO Message from T24 end, based on the configuration done in ATM.GEN.MAPPING table. This routine has to be attached as Input routine in the Version which client creates for his requirement.

Sample Version has been shown as below:



Customized routines can be attached based on clients needs. Configuring customized routines is similar to attaching the routines in INTRF.MAPPING. Click here for More Info.

Note: ATM.GEN.MAP.ID is the LOCAL REF Field which is used for providing Third party based Mapping ID's. Client can configure this Field in AUTO NEW CONTENT or can attach routines in the version to form the Request Id based on his needs.

5.18 VERSIONS

Versions which are currently used in ATM Interface

VERSION>FUNDS.TRANSFER,ATM

VERSION>FUNDS.TRANSFER,ATM.FP

VERSION>FUNDS.TRANSFER,ATM.AC

VERSION>FUNDS.TRANSFER,ATM.AC.FP

VERSION>AC.LOCKED.EVENTS,ATM

VERSION>FUNDS.TRANSFER,ATM.POS

VERSION>FUNDS.TRANSFER,ATM.POS.FP

VERSION>FUNDS.TRANSFER,ATM.CD

VERSION>FUNDS.TRANSFER,ATM.CD.FP

VERSION>CHEQUE.ISSUE,ATM

VERSION>FUNDS.TRANSFER,ATM.CHQ

VERSION>FUNDS.TRANSFER,ATM.CHQ.FP

VERSION>ATM.STMT.REQ,ATM
VERSION>FUNDS.TRANSFER,ATM.CHG
VERSION>FUNDS.TRANSFER,ATM.UTIL.FP
VERSION>FUNDS.TRANSFER,ATM.UTIL
VERSION>FUNDS.TRANSFER,REV.WD
VERSION>AC.LOCKED.EVENTS,ATM.FP
VERSION>AC.LOCKED.EVENTS,ATM.CW
VERSION>AC.LOCKED.EVENTS,ATM.CW.FP
VERSION>AC.LOCKED.EVENTS,ATM.FP
VERSION>AC.LOCKED.EVENTS,REV.WD

5.19 ENQUIRES

Enquires which are currently used in ATM Interface.

ENQ.NOFILE.SPF
E.ISO.ATM.BAL.ENQ
E.ISO.ATM.MINI.STMT

5.20 SERVICES

ATM Interface has provided a service which helps in taking backup of ATM.TRANSACTION table. This **BNK/ATM.TXNS.ARCHIVE** service archives the records to history based on the DAYS provided in ATM.PARAMETER TABLE.

5.21 LOCAL REFERENCE FIELDS

AT.UNIQUE.ID:

This field is used for storing the Unique ID for each transactions obtained from ISO Message

E.g.: 11*7: value of ISO Field 11 and Value of ISO Field 7 will be stored here.

BAL.AFT.TXN:

This field is used for storing the working & available balance for all transactions. Refer #Field 54 for more details.

AT.AUTH.CODE:

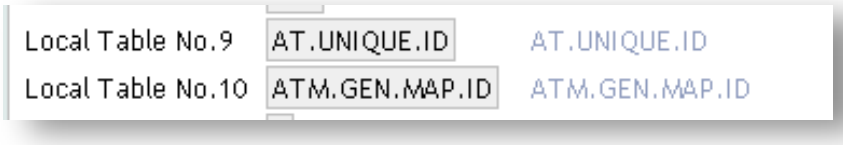
This field is used for storing unique code generated by T24 for populating in ISO Response for each transaction.

ATM.GEN.MAP.ID:

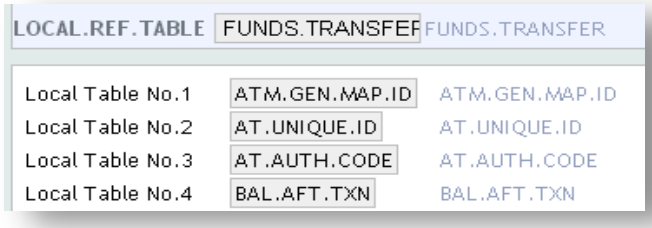
This field is used for storing the Mapping ID's used for generating the ISO Message from T24 Host.

Note: Above four Fields have to be attached in LOCAL.REFERENCE.FIELD of FUNDS.TRANSFER, AC.LOCKED.EVENTS & CHEQUE.ISSUE. ATM.GEN.MAP.ID & AT.UNIQUE.ID has to be attached in TELLER as shown below:

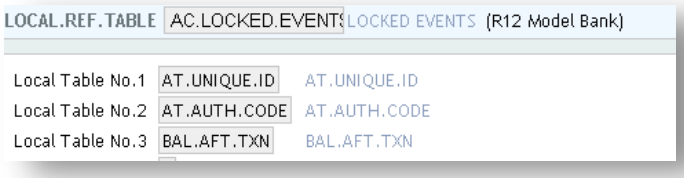
TELLER



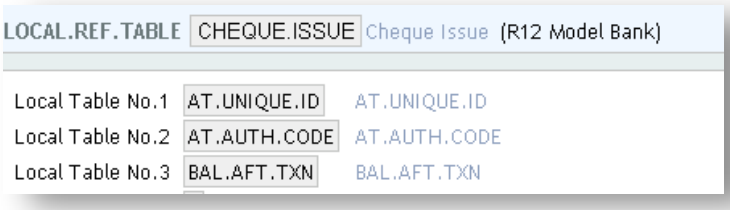
FUNDS.TRANSFER



AC.LOCKED.EVENTS



CHEQUE.ISSUE



5.22 Main Subroutines Descriptions

AT.CALC.AVAIL.BALANCE

- This routine is used to provide the balance of each account
- This routine will calculate the balances based in the locked amount and transaction amount i.e. WORK.BAL - LOCKED.AMT - TXN.AMT

AT.FMT.TXN.AMT

- This routine is attached in version of all transactions

- This routine will format the amount based on the decimals in the currency table.

AT.GEN.ISO.REQ.MSG

- This routine is used to initiate an ISO Message
- This routine will generate the ISO request message based on the mapping file defined in the request ATM.GEN.MAPPING record

AT.GEN.ISO.RES.MSG

- This routine will convert the ISO request message and parse the message based on the mapping file defined in the request ATM.GEN.MAPPING record

AT.GET.CHEQUE.ISSUE.ID

- This routine forms the record id for CHEQUE.ISSUE application.
- This routine validates if the account category is present in CHEQUE.TYPE. If present, based on this Cheque ID is formed.

AT.GET.ISO.FLD.VALUE

- This routine fetches the Incoming ISO Message values based on the ISO field positions sent in IN argument. OUT argument contains the record data's.

AT.GET.STMT.ID

- This routine is used to form Record Id for ATM.STMT.REQ application

AT.ISO.CALC.CR.ACCT

- This routine is used to fetch the Credit account no for ATM based transactions.
- If it's our bank transaction, based on BANK IMD and Terminal ID, credit account no will be fetched.
- If it's another bank transaction, based on BANK IMD, Credit account no will be fetched from ATM.BIN.ACCT Table.
- If no Terminal id or ATM.BIN.ACCT is configured, then default Branch or BIN configured in ATM.PARAMETER will be fetched.

AT.ISO.CALC.DR.ACCT

- This routine is used to fetch the Debit account no for ATM based transactions.
- This routine picks the debit account no for LORO transactions.
- When other bank customer does a transaction, Debit account number will be picked from ATM.BIN.ACCT based on the PAN NO.

AT.ISO.CALC.UTIL.ACCT

- This routine is used to fetch the Credit account no for UTILITY BILL PAYMENTS

AT.ISO.FMT.BAL.RTN

- This routine is used to form Balances for all transaction.
- Ledger and available balances are calculated here.

AT.ISO.GEN.MSG

- This routine is attached in VERSION of any TT or FT to trigger CALLJ
- This routine is used only when T24 has to initiate an ISO Message.
- This routine will validate the message received from third party system

AT.ISO.MINI.FMT.RTN

- This routine is used to form the MINI statement entries.

AT.ISO.REV

- This routine is used in full reversal and partial reversal.
- This routine will decide whether the transaction has to be reversed or initiated.
- This routine checks if there is any original transaction present in ATM.TRANSACTION.
- If original transaction is present then it will reverse the transaction
- If original transaction is present and partial amount is sent, then it initiates a new transaction

AT.ISO.PRE.PROCESS.MSG

- This routine will convert the ISO request message to OFS request message which will be posted through OFS SOURCE based on the mapping file defined in the request INTRF.MAPPING record.

AT.ISO.POST.PROCESS.MSG

- This routine will convert the OFS response to ISO response based on the Response mapping configured in the INTRF.MAPPING

AT.PHX.CHECK.MSG.RTN

- This routine will check if the incoming message is a Network message or a transaction message
- This routine will load the INTRF.MESSAGE skeleton based on the ISO MESSAGE

AT.POS.CREDIT.ACCT.NO

- This routine is used to fetch the Credit account no for POS based transactions.
- If it's our bank transaction, based on BANK IMD and POS device ID, Merchant account no will be fetched from ATM.POS.MERCHANT.ACCT.
- If it's another bank transaction, based on BANK IMD, Credit account no will be fetched from ATM.POS.BIN.ACCT Table.
- If no POS id or ATM.POS.BIN.ACCT is configured, then default POS or BIN configured in ATM.PARAMETER will be fetched.

AT.POS.DEBIT.ACCT.NO

- This routine is used to fetch the Debit account no for POS based transactions.
- This routine picks the debit account no for LORO transactions.
- When other bank customer does a transaction, Debit account number will be picked from ATM.POS.BIN.ACCT based on the PAN NO.

AT.POST.CHG.TXN.RTN

- This routine is used for raising separate charges.
- This routine will check if the charges are configured in ATM.CHG.TABLE or ATM.SPLIT.CHG.TABLE
- Based on the configurations, this routine will trigger raise a separate transaction
- Once the transaction is raised, ATM.TRANSACTION table is updated automatically.

AT.REV.CHG.TXN.RTN

- This routine is used to reverse charges raised.
- This routine will check if the charges are raised from ATM.TRANSACTION table
- If charges are raised, then these charges are reversed and ATM.TRANSACTION table is updated with reversal status.

ATM.CHK.POST.RESTRICT

- This routine is used to check if there is any posting restrict is present
- This routine is attached to INTRF.MAPPING record for NON Financial transactions.

ATM.COMP.SELECT

- This routine is used to get the company and financial mnemonic of the Account number coming in ISO message

ATM.ISO.ERR.CODE.RTN

- This routine is used to check the error code of the particular transaction.
- This routine will be triggered in OUT.MSG routine.
- This routine will check if FT is transaction is successful. If its successful, then success response code is sent through the ISO Message
- If the transaction is failed, then based on the error code mapped in ATM.RES.CODE.TABLE, the error response code will be sent through ISO Message

ATM.TXNS.ARCHIVE.RTN

- This routine is used to archive the transactions from ATM.TRANSACTION to its history table based on the days mentioned in ATM.PARAMETER

ATM.UPD.TXN.LOG.RTN

- This routine is used for logging the entries into ATM.TRANSACTION.
- This routine will update the table for all financial and non-financial transactions.

CAL.COMPANY.CDE

- This routine is used to trigger the company code based on the account number or terminal id sent from ISO Message

E.ISO.ATM.BAL.ENQ.BLD.RTN

- This is an Enquiry routine which generates the balance message.

E.ISO.ATM.MINI.STMT.BLD.RTN

- This is an Enquiry routine which generates the Mini Statement message.

E.ISO.RET.SPF.STATUS

- This enquiry routine is used for Network Messages
- This routine is used to check if the SYSTEM is on online and send the success response code back

V.ACLK.CALC.TO.DATE

- This routine will check the LOCK Period from ATM.PARAMETER and lock the amount for AC.LOCKED.EVENTS

V.ACLK.REV.UPD.ATM.KEY.ID

- This routine will update the ATM.TRANSACTION table, if reversal or partial reversal is successfully raised for AC.LOCKED.EVENTS.

V.ACLK.UPD.ATM.KEY.ID

- This routine will update the ATM.TRANSACTION table, if AC.LOCKED.EVENTS transaction is successfully raised for AC.LOCKED.EVENTS.

V.ATM.CHK.POST.RESTRICT

- This routine will check if there is any posting restricts
- This routine has to be attached only for ATM.STMT.REQ and CHEQUE.ISSUE applications

V.ATM.GET.CHG.TYPE

- This routine is used for charges.
- This routine will check if charges have to be raised with the Main FT.
- If so, then the charge code and charge amount will be passed with the main FT

V.BAL.DUP.CHECK

- This routine is used to check if the transaction is a duplicate of the existing transaction
- If so, then error will be triggered preventing rising of a new entry

V.CHG.FT.UPD.ATM.KEY.ID

- This routine is attached to charges version.
- This routine will update the ATM.TRANSACATION with the charges details.

V.CHQ.ATM.KEY.ID

- This routine is attached to CHEQUE.ISSUE version
- This routine will update the balance returned and Auth code for the cheque ISO Message

V.FT.REV.UPD.ATM.KEY.ID

- This routine will update the ATM.TRANSACTION table, if reversal or partial reversal is successfully raised for FUNDS.TRANSFER.

V.FT.UNBLK.ACCT

- This routine is used to release the Locked amount.
- This routine will check the ATM.DUAL.TRANSCATION table and fetch the Reversal ID.
- Then based on the reversal id, ATM.TRANSCATION recorded is opened and LOCKED AMOUNT is fetched, then the locked amount is released here

V.FT.UPD.ATM.KEY.ID

- This routine is used to update the ATM.TRANSACTION table, if transaction is successfully raised for FUNDS.TRANSFER

6. Transaction Message Format

6.1 Base24/ISO Transaction Message

6.1.1 Message Header

A 4-byte ASCII or 2-byte message header containing the length of the message has to be sent at the beginning of the message. The message length would exclude the length of the header.

Example:

Four Byte Header:

If the ISO message is 323 bytes, “0323” has to be added in front of the message. Therefore, the actual data sent is 327 bytes.

Two Byte Header:

If the ISO message is 323 bytes, these bytes “SOH C” [printed char format] has to be added in front of the message. Therefore, the actual data sent is 325 bytes

Note: Configuration of 2 byte or 4 byte has to be done at **Application Server** level.

6.1.2 Bitmap Message Format

A system that communicates with ATM Interface must construct messages according to ISO 8583 standards. Messages constructed as such have three main Components:

- ✓ Message type identifier
- ✓ Primary & Secondary bitmaps
- ✓ Series of data elements

Message Type Indicator	Bit Map	Data Elements

6.1.2.1 Message type identifier

The message type identifier is a 4-digit numeric field with the following sub-fields:
First 2 digits are the Message class
Last 2 digits are the Message function
An example of a message type identifier for a financial request transaction sent to the ATM Interface is: '0200'.

6.1.2.2 Bitmaps

Primary Bitmap
Format b-64
Length 16 bytes
Description
The primary bitmap is required in all messages. It determines which data elements are present. The bits are interpreted from left to right where a 1 indicates the field in that bit position is present and a 0 indicates the absence of that field.

Secondary Bitmap
Format b-64
Length 16 bytes
Description
The secondary bitmap is present only if data elements 65-128 are present in the message. The secondary bitmap has the same description as the primary bitmap.
Note: For T24 ATM Interface Primary & secondary bitmaps are mandatory.

6.1.2.3 Data Elements Definitions

Field #2: Primary Account Number (PAN)

Format **n...19**, **LLNUM**
Description
This field contains the primary account number (PAN) as represented on the consumer's Card. This field is used for all account numbers up to 19 digits in length.

Field #3: Processing Code

Format **n-6**
Length 6 bytes

Description
This field is required in all 01xx, 02xx, 04xx, 06xx, 08xx, 7xxx and 9xxx messages.
• A two digit process code
• A two digit **from account**
• A two digit **to account**

Current Transactions supported in T24 are:

Transaction Type	**Message Type** [ISO 8583:87/93]	**Processing Code**
Purchase	0100/0200/0220/0420 1100/1200/1220/1420	00xx00
Withdrawal	0100/0200/0220/0420 1100/1200/1220/1420	01xx00
Fund Transfer	0200/0220/0420 1200/1220/1420	40xxyy
Balance Inquiry	0200 1200	30xx00
Mini Statement	0200 1200	38xx00
Cash Deposit	0200/0220/0420 1200/1220/1420	21xx00
Cheque Deposit	0200/0220/0420 1200/1220/1420	24xx00
Statement Request	0200/0220 1200/1220	35xx00
Cheque Issue	0200/0220 1200/1220	91xx00
Utility Bill Payment	0200/0220/0420	50xx00

	1200/1220/1420	
Network Message	0800 1800	-NA-

Valid values for xx and yy can be:

00 – Default account

10 – Savings account

20 – Current account

30 – Credit account

Field #4: Transaction Amount

Format **n-12**
Length 12 bytes
Description
This field represents the transaction amount in the currency of the acquirer. The field always represents the original transaction amount.
Representation
The amount field is zero filled and right justified. The decimal places are implied.
Example
To represent the amount US$ 4,901.63 use **000000490163**.

Field #5: Settlement Amount

Format **n-12**
Length 12 bytes
Description
This field represents the amount for which the transaction will be settled in the settlement currency.
Representation
The amount field is zero filled and right justified. The decimal places are implied.
Example
To represent US$ 861.63 use **000000086163**.

Field #6: Equivalent Amount (Cardholder Billing)

Format **n-12**
Length 12 bytes
Description
In cases where a transaction takes place in a currency other than the cardholder's currency, this field represents the amount billed to the cardholder in the currency of the cardholder's account, exclusive of cardholder billing fees. It is the representation of the purchase amount converted from the currency of the acquiring country to the cardholder's billing currency.
Representation
The **equivalent amount** field is zero filled and right justified. The decimal places are implied.
Example
To represent US$ 423.92 use **000000042392**.

Field #7: Transmission Date and Time

Format **n-10**, MMDDhhmmss
Length 10 bytes
Description

This data element is required in all IST/Switch messages. It represents the date and time, in UTC format, at which the transaction first entered the EFT (electronic funds transfer) network. Once set, this field remains unchanged for the life of the transaction.

Representation

MM Month indicator
DD Day of month
hh 24 Hour clock (00-23)
mm Minutes
ss Seconds

Example

To express May 6, 2:30.376 p.m. use **0506143037**.

Field #9 – Conversion rate, Settlement

Format **n-8**
Length 8 bytes

Description

The factor used in the conversion from amount, transaction to amount, settlement. The amount, transaction is multiplied by this field to yield the amount, settlement. The leftmost digit denotes the number of positions the decimal separator shall be moved from the right. Positions 2 to 8 of the field represent the actual rate.

Example

Conversion rate value of 91234567 would equate to 0,001234567.

Field #10: Conversion Rate (Cardholder Billing)

Format **n-8**
Length 8 bytes

Description

In cases where a transaction takes place in a currency other than the cardholder's billing currency, this field represents the rate used to make a conversion from the transaction amount in the acquiring institution's currency to the currency of the cardholder's account.

Representation

This field is expressed as xnnnnnnn, where x is a number between 0 and 7 which indicates the number of positions that the decimal separator will be moved from the right.

Example

The number 67123890 is interpreted as **7.123890**.

Field #11: System Trace

Format **n-6**
Length 6 bytes

Description

It is a unique number.

Representation

This field is zero filled and right justified.

Field #12: Local Transaction Time

Format **n-6**, hhmmss
Length 6 bytes

Description

This field represents the local time at the terminal when the transaction occurred.

Representation

hh Hour of day in a 24 hour clock. mm Minute within the hour.ss Seconds past the minute

Example

To represent 5:14.53 p.m. use **171453**.

Field #13: Local Transaction Date

Format **n-4**, MMDD
Length 4 bytes
Description
This field represents the local date at the terminal when the transaction occurred.
Representation
MM Month 01 to 12
DD Day of month 01-31
Example
To represent March 18 use **0318**.

Field #15: Settlement Date

Format **n-4**, MMDD
Length 4 bytes
Description
The month and day for which financial totals are reconciled between the acquirer and the issuer.
Example
To represent a settlement date of April 12 use **0412**.

Field #18: Merchant Type

Format **n-4**
Length 4 bytes
Description
This field is used to represent the type of merchant generating the request.
Representation
This field is zero filled and right justified.
Example
To represent a merchant type of 6011 (this is an ATM) use **6011**.

Field #19: Acquiring Institution Country Code

Format **n-3**
Length Three bytes
Description
This field contains the code of the country where the acquiring institution is located. This is the financial organization that is responsible for the merchant or the ATM.

Field #22: Point-of-Service Entry Mode

Format **n-3**
Length 3 bytes
Description
This field indicates the method by which the PAN was captured as well as the terminals PIN entry capabilities.

Field #25: Point-of-Service Condition Code

Format **n-2**
Length 2 bytes
Description
This field is used to indicate the condition under which the transaction occurred.

Field #26: Point-of-Service PIN Capture Code

Format **n-2**

Length 2 bytes
Description
This field represents a code used to indicate the maximum number of PIN characters accepted by the point-of-service device used to construct the personal identification number (PIN) data. The field must contain the actual number of PIN characters if they are less than 4 or more than 12.

Field #28: Amount, Transaction fee

Format **n-8**
Length 8 bytes
Description
A fee charged, by the acquirer to the issuer, for transaction activity, in the currency of the amount transaction.

Field #29: Amount, settlement fee

Format **n-8**
Length 8 bytes
Description
A fee charged, by the acquirer to the issuer, for transaction activity, in the currency of the amount settlement.

Field #32: Acquiring Institution Code

Format **n...11, LLNUM**
Length 2 byte length, 1...11 digits following
Description
It indicates the acquiring institution identifier.
Representation
This field contains a 2 byte length which is zero filled and right justified. This length is followed by up to 11 digits.
Example
To represent the identifier 46910 use **0546910**.

Field #33: Forwarding Institution Code

Format **n...11, LLNUM**
Length 2 byte length followed by up to 11 digits
Description
A code identifying the institution that forwards the transaction in an interchange system en route to the card issuer.
Representation
This field contains a 2 byte length which is zero filled and right justified followed by up to 10 digits.
Example
To represent 987 use **03987**.

Field #35: Track-2 Data

Format **z...37, LLVAR**
Length 2 byte length followed by up to 37 bytes
Description
This field contains the **track2** data as captured by the device.

Field #37: Retrieval Reference Number

Format **an-12**
Length 12 bytes
Description

A reference number supplied by the system retaining the original source information and used to assist in locating that information or a copy thereof.

Field #38: Authorization Number

Format **an-6**
Length 6 bytes
Description
This field is required for all authorized transactions.

Field #39: Response Code

Format **an-2**
Length 2 bytes
Description
This field is required in all response messages and is used to indicate if the transaction was approved or if it failed.
Response Code Definition
00 Transaction Approved
05 Unable to process
76 Invalid accounts [Balance Enquiry & Mini statement]
Note: Further Response codes with their errors can be configured in **ATM.RES.COD.TABLE**

Field #41: Card Acceptor Terminal Identification

Format **ans-8**
Length 8 bytes
Description
This field is used to identify a terminal at the bank. It should be unique within that bank.
Representation
This field contains 8 bytes of alphanumeric and special characters.

Field #42: Card Acceptor Identification Code

Format **ans-15**
Length 15 bytes
Description
The value in this field is network dependent.
Representation
This field contains 15 bytes of alphanumeric and special characters.

Field #43: Card Acceptor Name/Location

Format **ans-40**
Length 40 bytes
Description
This field is used for the customer name and location.

Field #44: Additional Response Data

Format **an...25, LLVAR**
Length 2 byte length followed by up to 25 bytes data
Description
This field is defined as a private data field.

Field #45: Track-1 Data

Format **z...76, LLVAR**

Length 2 byte length followed by up to 76 bytes data
Description
This field contains the **track1** data as read from the card stripe by the terminal.

Field #48: Additional Data

Format **an ...999, LLLCHAR**
Length 3 bytes followed by up to 999 bytes of data
Description
Bitmap 48 contains the STMT entries for Mini statement Transaction. For other transactions this field will be null field.

Subfield	Position	Format	Definition
1	1-6	n-10	Date (in YYMMDD format)
2	7-9	n-3	Numeric Currency
3	10	X	Debit/Credit indicator(D/C)
4	11-22	n-12	Transaction Amount

Example
120126840D000000002500120126840D000000002500120126840D000000002500

Field #49: Transaction Currency Code

Format **n-3**
Length 3 bytes
Description
This is a required field in all messages. It defines the currency code for Field 4 (transaction amount).
Representation
This field is composed of 3 digits, zero filled and right justified.
Example
To represent the code for US currency, use **840**.

Field #50: Currency Code, Settlement

Format **an-3**
Length 3 bytes
Description
This is a code which identifies the currency used for settlement.

Field #51: Currency Code, Cardholder Billing

Format **n-3**
Length 3 bytes
Description
This field is a required field when the currency in which the transaction took place is not the same as the cardholder billing currency.
Representation
This field is composed of 3 digits, zero filled and right justified.
Example
To represent the code for US currency, use **840**.

Field #54: Additional Amounts

Format **an...120, LLLVAR**
Length 3 byte length followed by up to 120 digits
Description
This field indicates additional amounts for all transactions.
Representation
This field contains a 3 byte length field which denotes the total field length followed by up to two balance subfields. Each subfield is 20 bytes in total. . The total length is 43 bytes.

Subfield	Position	Format	Definition
1	1-2	n-2	Ledger account type
2	3-4	n-2	Ledger amount type
3	5-7	n-3	Numeric currency
4	8	X	Debit/Credit indicator(D/C)
5	9-20	n-12	Ledger Balance
6	21-22	n-2	Working account type
7	23-24	n-2	Working amount type
8	25-27	n-3	Numeric currency
9	28	X	Debit/Credit indicator(D/C)
10	29-40	n-12	Working Balance

Example
To represent an available balance
1001840C000000001098 1002840C000000001098.

Field #60: Terminal Totals

Format **an...999, LLVAR**
Length 2 byte length followed by up to 999 bytes data
Description
This field is a private data field.

Field #63: Reversal Reason Code

Format **an...999, LLVAR**
Length 2 byte length followed by up to 999 bytes data
Description
This field is a private data field.

Field #70: Network Management Information

Format **n-3**
Length 3 bytes
Description
This field is required in all 08xx messages. It indicates the type of network request to be processed. The following table lists the available codes.

Representation
This field is a numeric zero filled fields which is right justified.
Value Meaning
001 Sign on
002 Signoff
301 Echo test

Field #74: Credits, Number

Format **n-10**
Length 1 byte per digit
Description
This field contains the total number of credit transactions processed.

Field #75: Credits, Reversal Number

Format **n-10**
Length 1 byte per digit
Description
This field contains the total number of reversal credit transactions.

Field #76: Debits, Number

Format **n-10**
Length 1 byte per digit
Description
This field contains the total number of debit transactions processed.

Field #77: Debits, Reversal Number

Format **n-10**
Length 1 byte per digit
Description
This field contains the total number of reversal debit transactions.

Field #78: Transfers, Number

Format **n-10**
Length 1 byte per digit
Description
This field contains the total number of all transfer transactions processed.

Field #79: Transfers, Reversal Number

Format **n-10**
Length 1 byte per digit
Description
This mandatory field is used to contain the total number of all reversal transfer transactions processed.

Field #80: Inquiries, Number

Format **n-10**
Length 1 byte per digit
Description
This field contains the total number of inquiry requests processed.

Field #81: Authorizations, Number

Format **n-10**
Length 1 byte per digit
Description
This field contains the total number of authorization requests and authorization advice messages processed.

Field #82: Credits, Processing Fee Amount

Format **n-12**
Length 1 byte per number
Description
This field contains the total amount of processing fees due from the acquirer.

Field #83: Credits, Transaction Fee Amount

Format **n-12**
Length 1 byte per number
Description
This field contains the total amount of transaction fees due from the acquirer.

Field #84: Debits, Processing Fee Amount

Format **n-12**
Length 1 byte per number
Description
This field contains the total amount of processing fees due from the acquirer.

Field #85: Debit, Transaction Fee Amount

Format **n-12**
Length 1 byte per number
Description
The sum amount of all fees resulting from the processing of all debit transactions.

Field #86: Credits, Amount

Format **n-16**
Length 1 byte per digit
Description
This field contains the total number of all acquirer credit transactions processed exclusive of any fees.

Field #87: Credits, Reversal Amount

Format **n-16**
Length 1 byte per digit
Description
This field contains the sum amount of all acquirer reversal credit transactions processed exclusive of any fees.

Field #88: Debits, Amount

Format **n-16**
Length 1 byte per digit
Description
This field is mandatory and contains the sum amount of all debit transactions processed exclusive of any fees.

Field #89: Debits, Reversal Amount

Format **n-16**
Length 1 byte per digit
Description
This field is mandatory and contains the sum amount of all debit transactions processed exclusive of any fees.

Field #90: Original Data Elements

Format **n-42**
Length 42 bytes
Description
This field is required in all 04xx messages. It contains the data elements found in the original message, intended to identify a transaction for correction or reversal.
Representation
There are five subfields within the message:
Description Type
Original message type identifier n-4 [MTI]
Original trace number n-6 [Field 11]
Original transmission time and date n-10 [Field 7]
Original acquiring institution identification code n-11 [Field 32]
Forward institution identification code n-11 [Field 33]
Example
02006143251112121291000004986750000026709 8
Note: These data comes in field 56 of ISO Message for ISO8583:93 version

Field #95: Replacement Amounts

Format **n-42**
Length 42 bytes
Description
This field contains the new actual amount data elements necessary to perform a partial or full reversal on a financial transaction.

Field #97: Amount, Net Settlement

Format **n-17**
Length Fixed 17 bytes
Description
This field contains the net value of all gross amounts.

Field #99: Settlement Institution Identification Code

Format **n-11, LLNUM**
Length 1 byte per number
Description
This field contains the ID of the acquirer or acquirer's settlement agent.net value of all gross amounts.

Field #100: Receiving Institution Identification Code

Format **n-11, LLNUM**
Length 1 byte per number
Description
This field contains the ID of the receiving institution, if different from that identified by the Primary Account Number (PAN).

Field #102: From Account Number

Format **ans...28, LLVAR**

Length 2 byte length followed by up to 28 bytes
Description
This field is used to contain **from account** as entered by the user at the ATM. Alternatively, this field can be used to return a **from account** number by the host.

Field #103: To Account Number

Format **ans...28, LLVAR**
Length 2 byte length followed by up to 28 bytes
Description
This field is used to contain **to account** as entered by the user at the ATM. Alternatively, this field can be used to return **to account** number by the host.

Field #127: For Private Use

Format **ans 999, LLLVAR**
Length alphanumeric and special characters, variable length field to a maximum of 999 bytes.
Description
This field is a private reserved field, commonly used by switches for their internal purposes.
Representation
User defined system value.
Note: Data sent here is Echo backed by T24.

Field #128: MAC

Format **ans 999, LLLVAR**
Length alphanumeric and special characters, variable length field to a maximum of 999 bytes.
Description
Message Authentication Code (MAC) field, used to store the encrypted form of the key that is used to encrypt the data in the PIN field.
Representation
User defined system value.

6.2 PHOENIX Transaction Message

These Messages are used for Phoenix Interface, which has fixed Message length. These messages can have any header values configured by Switch vendor.

6.2.1 Message type identifier

The message type identifier is a 4-digit numeric field with the following sub-fields:
First 2 digits are the Message class
Last 2 digits are the Message function
An example of a message type identifier for a financial request transaction sent to the ATM Interface is: '0200'.

6.2.2 Data Elements Definitions

Field #1: Customer Identification Number

Format **n...20**
Description
This field contains the Customer Identification number is a unique number, which uniquely identifies the customer within the bank.
Representation
This field is Left justified and padded with spaces.

Field #2: Primary Account Number (PAN)

Format **n...20**
Description
This field contains the primary account number (PAN) as represented on the consumer's Card. This field is used for all account numbers up to 20 digits in length.
Representation
This field is Left justified and padded with spaces.

Field #3: Processing Code

Format **n-6**
Length 6 bytes

Description
This field is required in all 01xx, 02xx, 04xx, 06xx, 08xx, 7xxx and 9xxx messages.
• A two digit process code
• A two digit **from account**
• A two digit **to account**

Current Phoenix Transactions supported in T24 are:

Transaction Type	Message Type	Processing Code
Purchase	0200/0420/0205/0206	00xx00
Withdrawal	0200/0420/0205/0206	01xx00
Fund Transfer	0200/0420	40xxyy
Balance Inquiry	0200	30xx00
Mini Statement	0200	53xx00
Network Message	0800	-NA-

Valid values for xx and yy can be:

00 – Default account

10 – Savings account

20 – Current account

30 – Credit account

Field #4: Transaction Amount

Format **n-12**
Length 12 bytes
Description
This field represents the transaction amount in the currency of the acquirer. The field always represents the original transaction amount.
Representation
The amount field is zero filled and right justified. The decimal places are implied.
Example
To represent the amount US$ 4,901.63 use **000000490163**.

Field #5: Settlement Amount

Format **n-12**
Length 12 bytes
Description
This field represents the amount for which the transaction will be settled in the settlement currency.
Representation
The amount field is zero filled and right justified. The decimal places are implied.

Field #6: Equivalent Amount (Cardholder Billing)

Format **n-12**
Length 12 bytes
Description
In cases where a transaction takes place in a currency other than the cardholder's currency, this field represents the amount billed to the cardholder in the currency of the cardholder's account, exclusive of cardholder billing fees. It is the representation of the purchase amount converted from the currency of the acquiring country to the cardholder's billing currency.
Representation
The **equivalent amount** field is zero filled and right justified. The decimal places are implied.

Field #7: Transmission Date and Time

Format **n-10**, MMDDhhmmss
Length 10 bytes
Description
This data element is required in all IST/Switch messages. It represents the date and time, in UTC format, at which the transaction first entered the EFT (electronic funds transfer) network. Once set, this field remains unchanged for the life of the transaction.

Field #8 – Conversion rate, Settlement

Format **n-8**
Length 8 bytes
Description
This is the rate used in converting the settlement amount to cardholder billing amount. Transaction amount is multiplied with this rate to gets Cardholder billing amount.
Representation
This field is Left justified and padded with spaces.

Field #9 – Transaction rate

Format **n-8**
Length 8 bytes
Description
The factor used in the conversion from amount, transaction to amount, settlement. The amount, transaction is multiplied by this field to yield the amount, settlement. The leftmost digit denotes the number of positions the decimal separator shall be moved from the right. Positions 2 to 8 of the field represent the actual rate.
Representation
This field is Left justified and padded with spaces.

Field #10: System Audit Trace

Format **n-6**
Length 6 bytes
Description
It is a unique number.
Representation

This field is zero filled and right justified.

Field #11: Local Transaction Time

Format **n-6**, hhmmss
Length 6 bytes
Description
This field represents the local time at the terminal when the transaction occurred.
Representation
hh Hour of day in a 24 hour clock. mm Minute within the hour.ss Seconds past the minute

Field #12: Local Transaction Date

Format **n-4**, MMDD
Length 4 bytes
Description
This field represents the local date at the terminal when the transaction occurred.
Representation
MM Month 01 to 12
DD Day of month 01-31

Field #13: Expiry Date

Format **n-4**, MMDD
Length 4 bytes
Description
Expiry date on the card, expressed as YYMM.

Field #14: Settlement Date

Format **n-4**, MMDD
Length 4 bytes
Description
The month and day for which financial totals are reconciled between the acquirer and the issuer.

Field #17: Merchant Type

Format **n-4**
Length 4 bytes
Description
This field is used to represent the type of merchant generating the request.
Representation
This field is zero filled and right justified.
Example
To represent a merchant type of 6011 (this is an ATM) use **6011**.

Field #18: Source Channel Type

Format **n-4**
Length 4 bytes
Description
This field is used to represent the type of Source channel.
Representation
This field is zero filled and right justified.

Field #19: Destination Type

Format **n-4**
Length 4 bytes
Description
This field is used to represent the type of Destination channel.
Representation
This field is zero filled and right justified.
Example
To represent a Source type of 6011 (this is an ATM) use **6011**.

Field #20: Acquiring Institution Country Code

Format **n-3**
Length Three bytes
Description
This field contains the code of the country where the acquiring institution is located. This is the financial organization that is responsible for the merchant or the ATM.

Field #21: Point-of-Service Country Mode

Format **n-3**
Length 3 bytes
Description
This is the code identifying the country where the card issuer is located.

Field #22: Point-of-Service Entry Mode

Format **n-3**
Length 3 bytes
Description
This field indicates the method by which the PAN was captured as well as the terminals PIN entry capabilities.

Field #23: Point-of-Service Condition Code

Format **n-2**
Length 2 bytes
Description
This field is used to indicate the condition under which the transaction occurred.

Field #24: Point-of-Service PIN Capture Code

Format **n-2**
Length 2 bytes
Description
This field represents a code used to indicate the maximum number of PIN characters accepted by the point-of-service device.

Field #25: Acquiring Institution Code

Format **n-11**
Description
It indicates the acquiring institution identifier.

Field #26: Forwarding Institution Code

Format **n-11**
Description

A code identifying the institution that forwards the transaction in an interchange system en route to the card issuer.

Field #27: Track-2 Data

Format **n-37**
Length 37 left justified, padded with spaces.
Description
This field contains the **track2** data as captured by the device.

Field #28: Track-3 Data

Format **n-104**
Length 104 left justified, padded with spaces.
Description
The complete data on track-3 including the starting and ending delimiters, as read by the ATM from the magnetic card.

Field #29: Retrieval Reference Number

Format **n-12**
Length 12 bytes
Description
A reference number supplied by the system retaining the original source information and used to assist in locating that information or a copy thereof.

Field #30: Authorization Number

Format **n-6**
Length 6 bytes
Description
This field is required for all authorized transactions.

Field #31: Response Code

Format **n-2**
Length 2 bytes
Description
This field is required in all response messages and is used to indicate if the transaction was approved or if it failed.
Response Code Definition
00 Transaction Approved
05 Unable to process
76 Invalid accounts [Balance Enquiry & Mini statement]

Note: Further Response codes with their errors can be configured in **ATM.RES.COD.TABLE**

Field #32: Card Acceptor Terminal Identification

Format **n-16**
Length 8 bytes
Description
This field is used to identify a terminal at the bank. It should be unique within that bank.
Representation
This field contains 16 bytes, left justified with spaces.

Field #33: Card Acceptor Identification Code

Format **n-15**
Length 15 bytes
Description
The value in this field is network dependent.
Representation
This field contains 15 bytes of alphanumeric and special characters.

Field #34: Card Acceptor Name/Location

Format **n-40**
Length 40 bytes
Description
This field is used for the customer name and location.

Field #35: Additional Response Data

Format **n-25**
Length 25 bytes
Description
This field indicates additional amounts for all transactions.
Representation
This field describes the balance sent for all transactions

Subfield	Position	Format	Definition
1	1	n-1	1- Indicates that actual balance is present only 2- Indicates that available balance is present only 3- Indicates that available and actual balances are present
2	2	X	Ledger balance Positive/Negative indicator(0/-)
3	3-13	n-11	Ledger Balance
4	14	X	Available balance Positive/Negative indicator(0/-)
5	15-25	n-11	Available Balance

Example
To represent an available balance
10000000010980000000001098.

Field #36: Track-1 Data

Format **n-76**
Length 76 bytes data
Description
This field contains the **track1** data as read from the card stripe by the terminal.

Field #37: Additional Data

Format **n-44**
Length 44 bytes
Description
For Future Use

Field #38: Transaction Currency Code

Format **n-3**
Length 3 bytes
Description
This is a required field in all messages. It defines the currency code for Field 4 (transaction amount).
Representation
This field is composed of 3 digits, zero filled and right justified.
Example
To represent the code for US currency, use **840**.

Field #39: Currency Code, Settlement

Format **n-3**
Length 3 bytes
Description
This is a code which identifies the currency used for settlement.

Field #40: Currency Code, Cardholder Billing

Format **n-3**
Length 3 bytes
Description
This field is a required field when the currency in which the transaction took place is not the same as the cardholder billing currency.
Representation
This field is composed of 3 digits, zero filled and right justified.
Example
To represent the code for US currency, use **840**.

Field #47: Original Data Elements

Format **n-42**
Length 42 bytes
Description
This field is required in all 04xx messages. It contains the data elements found in the original message, intended to identify a transaction for correction or reversal.
Representation
There are five subfields within the message:
Description Type
Original message type identifier n-4 [MTI]
Original trace number n-6 [Field 9]
Spaces n-6
Original transmission time and date n-10 [Field 10 & 11]
Spaces n-6
Original transmission time and date n-10 [Field 6]
Example
0200614325 1112121291 0000049867

Field #48: Replacement Amounts

Format **n-42**
Length 42 bytes
Description
This field contains the new actual amount data elements necessary to perform a partial or full reversal on a financial transaction.

Field #50: From Account Number

Format **n-28**
Length 28 digits, left justified, padded with spaces
Description
This field is used to contain **from account** as entered by the user at the ATM. Alternatively, this field can be used to return a **from account** number by the host.

Field #51: To Account Number

Format **n-28**
Length 28 digits, left justified, padded with spaces
Description
This field is used to contain **to account** as entered by the user at the ATM. Alternatively, this field can be used to return **to account** number by the host.

Field #53: Additional Data

Format **n-400**
Length 400 digits, left justified, padded with spaces
Description
Bitmap 53 contains the STMT entries for Mini statement Transaction. For other transactions this field will be null field.

Subfield	Position	Format	Definition
1	1-8	n-8	Date (in DD-MM-YY format)
2	9-24	n-16	Transaction Description
3	25-40	n-16	Transaction Amount

Example
14-04-11TRANSFER 100000.00 DB14-04-11TRANSFER 100000.00 DB

7. ISO Message Field Format

7.1Base24/ ATM

7.1.1 Online Transactions

Bit#	Field Name	0100 /0200 /1100 /1200	0110 /0210 /1110 /1210	Description
-	Message Type Identifier	M	M	
-	Primary Bitmap	M	M	
1	Secondary Bitmap	M	M	
2	Primary Account Number (PAN)	M	M	
3	Processing Code	M	M	
4	Amount, Transaction	M	M	
5	Amount, Settlement	C		
6	Amount, Cardholder Billing	C		
7	Transmission Date & Time	M	M	
9	Conversion Rate, Settlement	C	C	Present if bit 5 is present
10	Conversion Rate, Cardholder Billing	C	C	Present if bit 6 is present
11	System Trace Number	M	M	Unique ID for all transactions
12	Local Transaction Time	M	M	
13	Local Transaction Date	M	M	
14	Expiration Date	C	C	
15	Settlement Date	C	C	
18	Merchant Type	M	M	
22	POS Entry Mode	C	C	
25	POS Condition Code	C	C	
26	POS Pin Capture Code	C	C	
28	Amount, Transaction fee	M	M	
29	ATM Surcharge Fee	C	C	
32	Acquiring Institution Code	M	M	Acquirer bin no
35	Track-2 Data	C	C	

37	Retrieval Reference Number	M	M	
38	Authorization Number	-	M	This field must be present for all transactions authorized by the issuer processor.
39	Response Code	-	M	This field indicates the disposition of the transaction.
41	Card Acceptor Terminal Identification	M	M	
42	Card Acceptor Identification Code	C	C	
43	Card Acceptor Name and Location	M	M	
48	Additional Data	C	C	This field is mandatory for Mini statement alone. Since this field will contain all the transaction details.
49	Currency Code, Transaction	M	M	Original transaction currency
50	Currency Code, Settlement	C	C	Present if bit 5 is present
51	Currency Code, Cardholder Billing	M	M	
52	Personal Identification Number (PIN)	-	-	
54	Additional Amount	-	M	Contains the balance of the account.
60	For Private Use	C	C	
102	From Account Identification	M	M	Contains the source account number for the transaction.
103	To Account Identification	C	C	For funds transfer should contain the destination account number.
127	Private Field	C	C	

7.1.2 Force Posts/Advice Transactions

Bit#	Field Name	0220 /1220	0230 /1230	Description
-	Message Type Identifier	M	M	
-	Primary Bitmap	M	M	
1	Secondary Bitmap	M	M	
2	Primary Account Number (PAN)	M	M	
3	Processing Code	M	M	
4	Amount, Transaction	M	M	
5	Amount, Settlement	C	C	

6	Amount, Cardholder Billing	C	C	
7	Transmission Date & Time	M	M	
9	Conversion Rate, Settlement	C	C	Present if bit 5 is present
10	Conversion Rate, Cardholder Billing	C	C	Present if bit 6 is present
11	System Trace Number	M	M	Unique ID for all transactions
12	Local Transaction Time	M	M	
13	Local Transaction Date	M	M	
14	Expiration Date	C	C	
15	Settlement Date	C	C	
18	Merchant Type	M	M	
22	POS Entry Mode	C	C	
25	POS Condition Code	C	C	
26	POS Pin Capture Code	C	C	
28	Amount, Transaction fee	M	M	
29	ATM Surcharge Fee	C	C	
32	Acquiring Institution Code	M	M	Acquirer bin no
35	Track-2 Data	C	C	
37	Retrieval Reference Number	M	M	
38	Authorization Number	-	M	This field must be present for all transactions authorized by the issuer processor.
39	Response Code	-	M	This field indicates the disposition of the transaction.
41	Card Acceptor Terminal Identification	M	M	
42	Card Acceptor Identification Code	C	C	
43	Card Acceptor Name and Location	M	M	
48	Additional Data	C	C	This field is mandatory for Mini statement alone. Since this field will contain all the transaction details.
49	Currency Code, Transaction	M	M	Original transaction currency
50	Currency Code, Settlement	C	C	Present if bit 5 is present
51	Currency Code, Cardholder Billing	M	M	Present if bit 6 is present
52	Personal Identification Number (PIN)	-	-	
54	Additional Amount	-	M	Contains the balance of the account.
60	For Private Use	C	C	
102	From Account Identification	M	M	Contains the source account number for the

				transaction.
103	To Account Identification	C	C	For funds transfer should contain the destination account number.
127	Private Field	C	C	

7.1.3 Reversal Transactions

Bit#	Field Name	0420 /1420	0430 /1430	Description
-	Message Type Identifier	M	M	
-	Primary Bitmap	M	M	
1	Secondary Bitmap	M	M	
2	Primary Account Number (PAN)	M	M	
3	Processing Code	M	M	
4	Amount, Transaction	M	M	
5	Amount, Settlement	C	C	
6	Amount, Cardholder Billing	C	C	
7	Transmission Date & Time	M	M	
9	Conversion Rate, Settlement	C	C	Present if bit 5 is present
10	Conversion Rate, Cardholder Billing	C	C	Present if bit 6 is present
11	System Trace Number	M	M	Unique ID for all transactions
12	Local Transaction Time	M	M	
13	Local Transaction Date	M	M	
15	Settlement Date	C	C	
18	Merchant Type	M	M	
22	POS Entry Mode	C	C	
25	POS Condition Code	C	C	
26	POS Pin Capture Code	C	C	
28	Amount, Transaction fee	M	M	
29	ATM Surcharge Fee	C	C	
32	Acquiring Institution Code	M	M	Acquirer bin no
35	Track 2 Data	C	C	
37	Retrieval Reference Number	M	M	
38	Authorization Number	-	M	This field must be present

				for all transactions authorized by the issuer processor.
39	Response Code	-	M	This field indicates the disposition of the transaction.
41	Card Acceptor Terminal Identification	M	M	
42	Card Acceptor Identification Code	C	C	
43	Card Acceptor Name and Location	M	M	
49	Currency Code, Transaction	M	M	Original transaction currency
50	Currency Code, Settlement	C	C	Present if bit 5 is present
51	Currency Code, Cardholder Billing	M	M	Present if bit 6 is present
54	Additional Amount	-	M	Contains the balance of the account.
60	For Private Use	C	C	
90	Original Data Elements	M	M	This field contains the Original Transaction elements i.e. MTI*11*7*32*33
95	Replacement Amounts	C	C	
102	From Account Identification	M	M	Contains the source account number for the transaction.
103	To Account Identification	C	C	For funds transfer should contain the destination account number.
127	Private Field	C	C	

7.1.4 Network Transactions

Bit#	Field Name	0800 /1800	0810 /1810	Description
-	Message Type Identifier	M	M	
-	Primary Bitmap	M	M	
1	Secondary Bitmap	M	M	
7	Transmission Date & Time	M	M	
11	System Trace Number	M	M	
32	Acquiring Institution Code	M	M	
39	Response Code	-	M	This field indicates the disposition of the transaction.
70	Network Management Code	M	M	Contains the Sign on or signoff or Echo message.

7.2Phoenix

7.2.1 Online Transactions

Bit#	Field Name	0200 /205	0210 /215	Description
-	Message Type Identifier	M	M	
1	Customer Identification Number	M	M	
2	Primary Account Number (PAN)	M	M	
3	Processing Code	M	M	
4	Amount, Transaction	M	M	
5	Amount, Settlement	C		
6	Amount, Cardholder Billing	C		
7	Transmission Date & Time	M	M	
9	Transaction Fee	C		
10	System Trace Number	M	M	Unique ID for all transactions
11	Local Transaction Time	M	M	
12	Local Transaction Date	M	M	
13	Expiration Date	C	C	
14	Settlement Date	C	C	
17	Merchant Type	M	M	
18	Source Channel Type	M	M	
19	Destination Type	C	C	
22	POS Entry Mode	C	C	
25	Acquiring Institution Code	M	M	Acquirer bin no
26	Forward Institution code	C	C	
27	Track-2 Data	C	C	
28	Track-3 Data	C	C	
29	Retrieval Reference Number	M	M	
30	Authorization Number	-	M	This field must be present for all transactions authorized by the issuer processor.
31	Response Code	-	M	This field indicates the disposition of the transaction.
32	Card Acceptor Terminal Identification	M	M	

33	Card Acceptor Identification Code	C	C	
34	Card Acceptor Name and Location	M	M	
35	Additional Amount	-	M	Contains the balance of the account.
38	Currency Code, Transaction	M	M	Original transaction currency
39	Currency Code, Settlement	C	C	Present if bit 5 is present
40	Currency Code, Cardholder Billing	C	C	
50	From Account Identification	M	M	Contains the source account number for the transaction.
51	To Account Identification	C	C	For funds transfer should contain the destination account number.
53	Additional Data	-	C	This field is mandatory for Mini statement alone. Since this field will contain all the transaction details.

7.2.2 Reversal Transactions

Bit#	Field Name	0206 /420	0216 /430	Description
-	Message Type Identifier	M	M	
1	Customer Identification Number	M	M	
2	Primary Account Number (PAN)	M	M	
3	Processing Code	M	M	
4	Amount, Transaction	M	M	
5	Amount, Settlement	C		
6	Amount, Cardholder Billing	C		
7	Transmission Date & Time	M	M	
9	Transaction Fee	C		
10	System Trace Number	M	M	Unique ID for all transactions
11	Local Transaction Time	M	M	
12	Local Transaction Date	M	M	
13	Expiration Date	C	C	
14	Settlement Date	C	C	

17	Merchant Type	M	M	
18	Source Channel Type	M	M	
19	Destination Type	C	C	
22	POS Entry Mode	C	C	
25	Acquiring Institution Code	M	M	Acquirer bin no
26	Forward Institution code	C	C	
27	Track-2 Data	C	C	
28	Track-3 Data	C	C	
29	Retrieval Reference Number	M	M	
30	Authorization Number	-	M	This field must be present for all transactions authorized by the issuer processor.
31	Response Code	-	M	This field indicates the disposition of the transaction.
32	Card Acceptor Terminal Identification	M	M	
33	Card Acceptor Identification Code	C	C	
34	Card Acceptor Name and Location	M	M	
35	Additional Amount	-	M	Contains the balance of the account.
38	Currency Code, Transaction	M	M	Original transaction currency
39	Currency Code, Settlement	C	C	Present if bit 5 is present
40	Currency Code, Cardholder Billing	C	C	
47	Original Data elements	M	M	
48	Replacement Elements	C	C	If partial reversal is present
50	From Account Identification	M	M	Contains the source account number for the transaction.
51	To Account Identification	C	C	For funds transfer should contain the destination account number.

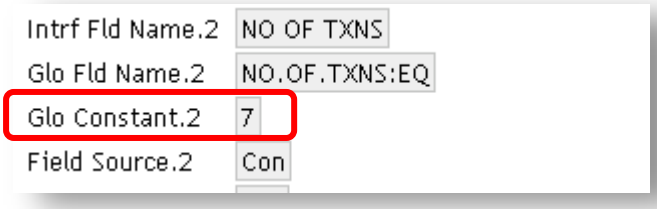
7.2.3 Network Transactions

Bit#	Field Name	0800	0810	Description
-	Message Type Identifier	M	M	
1	Transmission Date & Time	M	M	
2	System Trace Number	M	M	
3	Settlement date	M	M	
4	Response Code	-	M	This field indicates the disposition of the transaction.
5	Network Management Code	M	M	Contains the Sign on or signoff or Echo message.

8. Frequently asked Questions

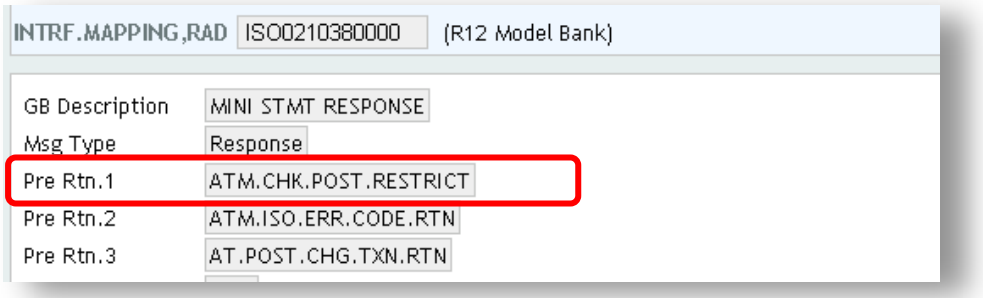
Question: In Mini statement how to print last 7 transactions made instead of 10 transactions made?

Answer: In Mini statement, Change the Constant value from **10** to **7**



Question: How to add posting restrictions for Non Financial transactions?

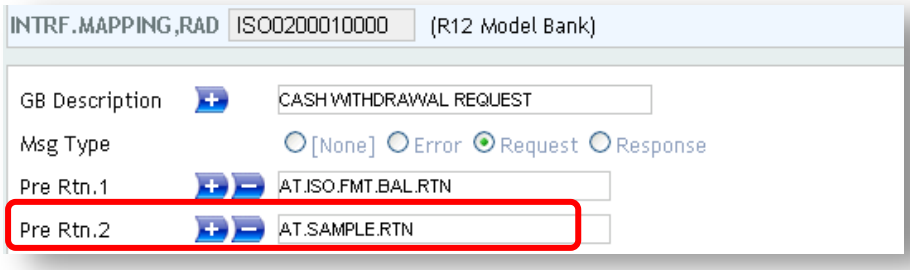
Answer: Generic routine called **ATM.CHK.POST.RESTRICT** will be available in the pack. Kindly attach this routine to 3.1 of **Response** mapping, ahead of ATM.ISO.ERR.CODE.RTN.



Question: How to add customized routines in Framework?

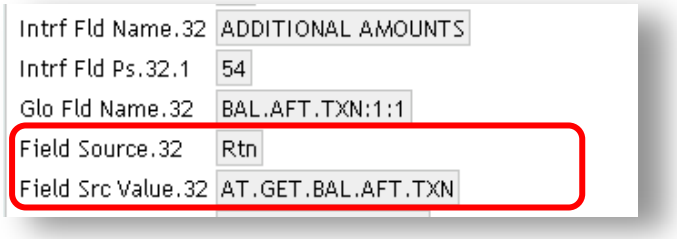
Answer: If any values have to be triggered during the formation of OFS String, then those routines have to be attached in **REQUEST** mapping record after **AT.ISO.FMT.BAL.RTN**

Note: In mini statement, customized routines have to be attached from 3.3, since routines attached in 3.1 and 3.2 are used.

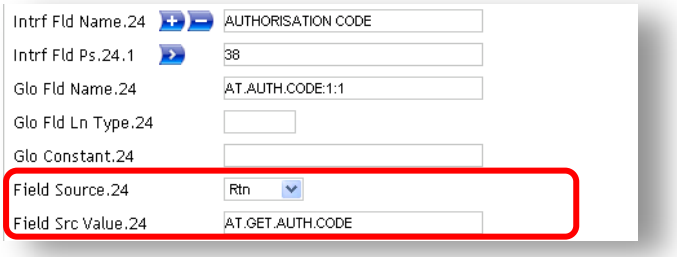


Question: How to display the balances even if the transaction is declined?

Answer: This generic routine **AT.GET.BAL.AFT.TXN** can be attached in **RESPONSE** mapping as given below to display balances, if required.



Similarly if AUTH CODE is not displayed kindly follow the above steps to attach this generic routine **AT.GET.AUTH.CODE**

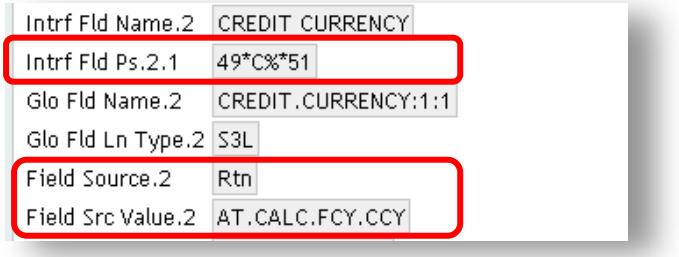


Note: This routine can also be attached if charges are raised based on **Separate FT** concept. if attached, the latest balances after charges are raised will be reflected.

Question: Does foreign currency support in ATM Framework?

Answer: Yes, it will support based on configurations. Kindly follow the below instructions

In Request Message of **INTRF.MAPPING** records**,** kindly configure as below



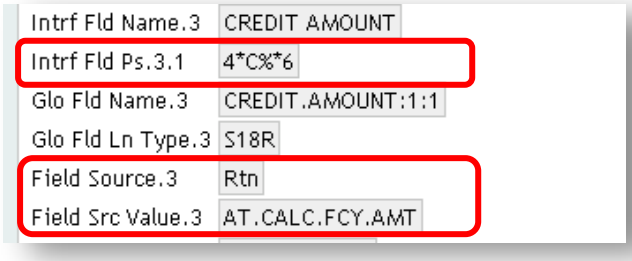
Intrf Fld Ps will be as 49. Set it based on requirements and attach the generic routine **AT.CALC.FCY.CCY** with Field source set as **Rtn**

Ex: change it as Transaction currency [i.e Txn currency posn - 49 here] *C%* Settlement currency [i.e. Foreign currency posn - 51 here]

Note: Transaction currency position should always be provided and it should be similar to TXN.CCY set in ATM.PARAMETER.

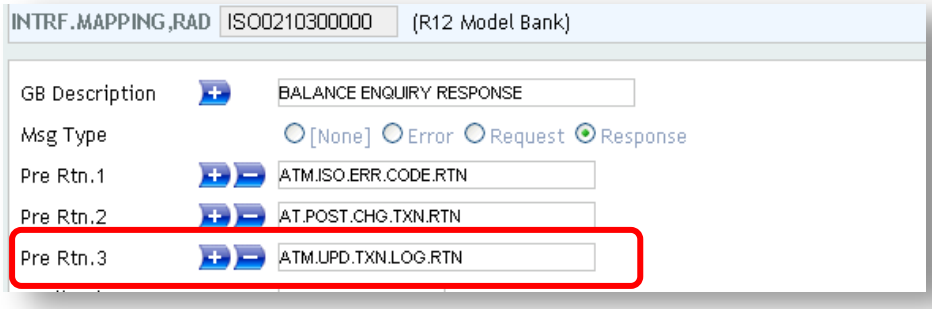
Similarly do the same for Credit Amount as **transaction amount field position *C%* settlement amount position** and attach the generic routine **AT.CALC.FCY.AMT** with Field source set as **Rtn**

, if needed



Question: How to log the transaction details for Non financial transactions and for failed transactions?

Answer: Kindly attach this **ATM.UPD.TXN.LOG.RTN** to **RESPONSE** mapping record. This routine will update all the transaction details even for failure transactions and also for Non Financial transactions.



9. Exceptions

***** - Indicates the transactions which are not available for **PHOENIX** Interface in Generic Framework.

However these transactions can be provided based on the request from client.

******- Indicates the fields which are not supported for **Base24/ATM interfaces**