



PoT (Payment of Things) series UPE-100

Out of PA-DSS Scope Simple Integration API
Specification

Version 1.6
3-30-2018

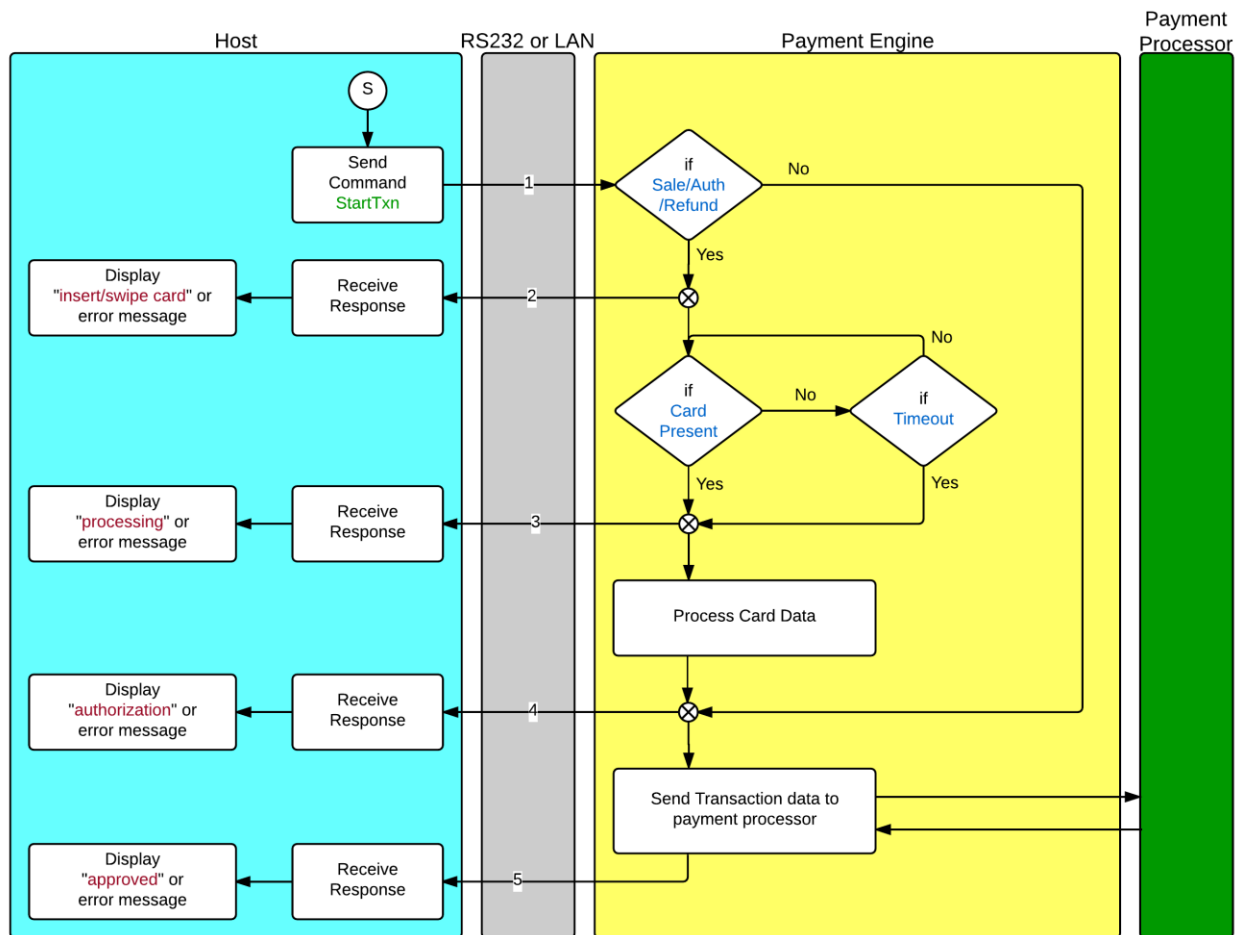
Modification History

Version	Date	Editor	Note
1.0	02/08/2017	UIC	Initial release
1.1	03/06/2017	UIC	Add prompt message table and report management features.
1.2	04/12/2017	UIC	Correct command format for the Report Management. Correct Settlement response format. Correct errors in Appendix B Transaction Logs.
1.3	05/15/2017	UIC	Add diagnostic management features. Describe more detail about command ID and response ID.
1.4	05/23/2017	UIC	Correct errors in Diagnostic Management.
1.5	07/26/2017	UIC	Add diagnostic test items.
1.6	03/30/2018	UIC	Add 3 command ID for the system control in the System Management and the scenario for system update process. Add a command for retrieving the configuration of Payment Processor. Add two message IDs and update status code for system update process. Remove some unimplemented commands in Diagnostic Management.

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Operation Flow



Command Set Structure

Communication via Ethernet interface

Ethernet Interface Command Format

Format	<XML Command>	
Length	The length of the XML Command message	
Field	Length	Value and Description
<XML Command>	Var	XML command message

Communication via Serial interface

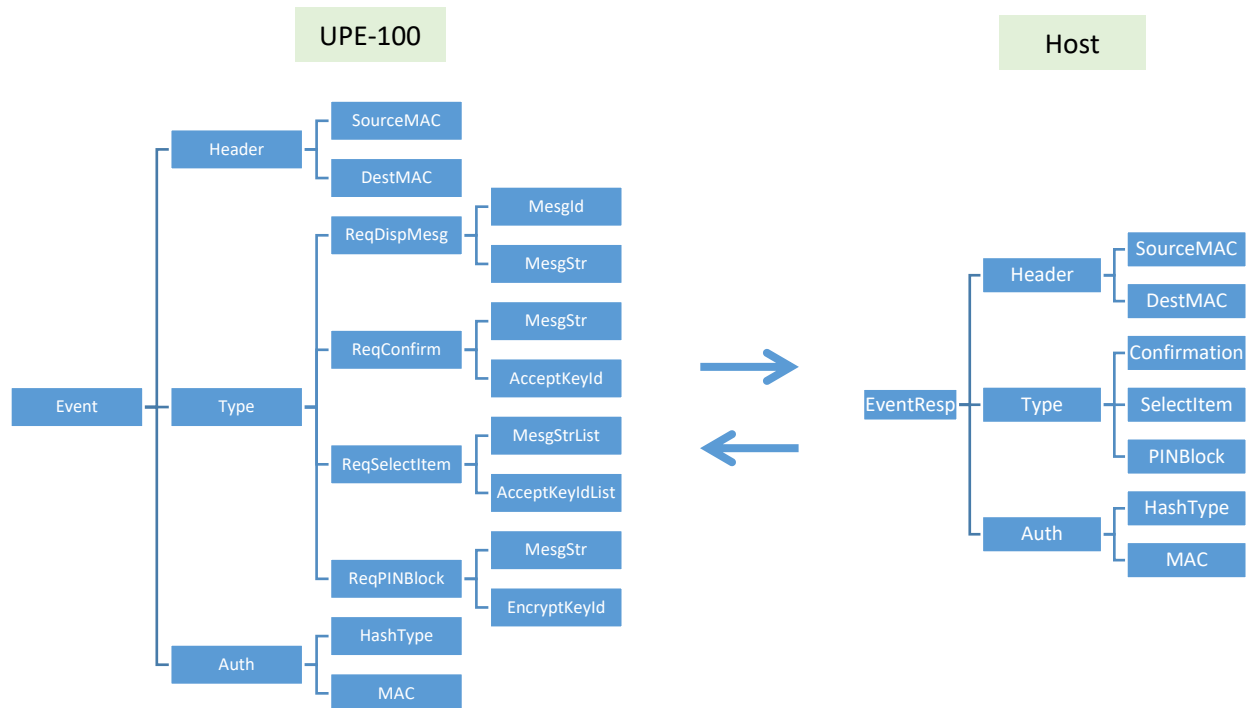
Serial Interface Command Format

Format	<Packet Header><Length High><Length Low> <XML Command> <LRC>	
Length	4 byte + the length of the XML Command message	
Field	Length	Value and Description
< Packet Header >	1	<C2>
<Length High>	1	Command Length High byte
<Length Low>	1	Command Length Low byte
<XML Command>	Var	XML command message
<LRC>	1	LRC for the message block. Calculated (XOR) on all data contents excluding the packet header C2.

Request (host)/Response (UPE-100) XML Command Message



UPE-100 Event and Host Action Message



Command Set and Status Code

Status Code	Status Text	Description	Solution
0000	Successful	Command performed successfully.	No action required.
0001	Not Ready	System is not ready to perform the command.	Send command again.
0002	Online Authorization Request	Online authorization request.	
0003	Signature Request	Cardholder signature request.	Print transaction receipt with signature line.
0006	Transaction Cancel	The transaction is cancelled.	No action required.
0007	Transaction Terminate	The transaction is terminated.	No action required.
0008	No Record	There is no transaction record in the system.	No action required.
0009	No Terminal Configuration	The terminal profile is not existed for EMV transaction.	Load terminal configuration.
000A	No Application Configuration	The application profile is not existed for EMV transaction.	Load application configuration.
000B	No CA Public Key	There is no CA public key existed for EMV transaction.	Load CA public key.
000C	Try Another Card	The card is unable to perform transaction, try to use another card.	Perform the transaction by another card.
000D	Swipe Card Again	The card data is not collected successfully, swipe the card again.	Swipe the card again.
000E	Source MAC Address Not Allow	The source MAC address is not allowed.	Check the setting of source MAC address.
000F	Destination MAC Address Incorrect	Destination MAC address is incorrect.	Check if the connected UPE-100's MAC address.
0010	Hash Type Not Support	The using hash type is not supported.	Try to use other hash type for the command.
0011	Message Authentication Code Incorrect	The command's authentication code is incorrect.	Verify the MAC of the command.
0012	Transaction Type Not Support	The inputted transaction type is not supported.	Check if the transaction type value in the command is correct.
0013	Account Type Not Support	The inputted account type is not supported.	Check if the account type value in the command is correct.
0014	Currency Code Incorrect	The transaction currency code is incorrect.	Check if the currency code value in the command is correct.
0015	Amount/Cashback Amount Incorrect	Transaction amount or cashback amount is incorrect.	Check if the inputted amount is correct.
0016	Force Online Setting Incorrect	The setting of force online is incorrect.	Check if the force online value in the command is

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			correct.
0017	Command Format Incorrect	The received command format is incorrect.	Verify the command.
0018	LRC Error	The LRC of received command is wrong.	Verify the command.
0019	Parameter Error	The parameter of received command is wrong.	Verify the command.
001A	Unrecognized Command	The received command cannot be recognized.	Verify the command.
1000	Processor Error - Internal Server Error	The error message sent from gateway/processor to indicate its server error.	Please try to perform the transaction again. If this issue is seen for a number of consecutive transactions, please call the helpdesk.
1001	Processor Error - Transaction Response Error	The transaction response from gateway/processor is incorrect.	Please try to perform the transaction again. If this issue is seen for a number of consecutive transactions, please call the helpdesk.
1002	Processor Error - Communication Timeout	The connection between system and gateway/processor is too slow.	Check the network cable connection or change the cable. If it is possible, please check the network equipment.
1003	Processor Error - Communication Error	The connection between system and gateway/processor is failed.	Check the network cable connection or change the cable. If it is possible, please check the network equipment.
FF00	System Error - Peripheral Comm Problem	There is communication problem with peripheral.	Please check the connection between system and reader. If this issue cannot be resolved, please call the helpdesk.
FF01	System Error - Parameter Incorrect	The parameter which is using in the system is wrong.	Please call the helpdesk.
FF02	System Error - Out of Memory	System's memory space is not enough.	Please reboot UPE-100. If this issue is seen for a number of consecutive transactions, please call the helpdesk.
FF03	System Error - Buffer Size Error	The allocated memory space is not enough to process data.	Please call the helpdesk.
FF04	System Error - Timeout Error	System timeout error.	Please call the helpdesk.
FF05	System Error - Data Error	Data processing failed.	Please call the helpdesk.
FF06	System Error - File Create Error	Create file failed.	Settle the batch or authorize any pending transactions. If this issue cannot be

			resolved, please call the helpdesk.
FF11	System Error – Update System Error	The system program update process failed.	Please reboot UPE-100 and retry the process. If this issue is seen for a number of consecutive transactions, please call the helpdesk.
FF13	System Error – Update System Needed	The system program has to be updated.	Please wait for the following events to finish the process.
FFFE	System Error – Unknown Error	Unknown error.	Please call the helpdesk.
FFFF	System Error – Fatal Error	Critical error in the system.	Please call the helpdesk.

Transaction

Start Transaction

Perform out-of-scope transaction including Sale, Auth Only, Auth Capture, Tip Adjustment, Void, Return and Reversal. Please see the detail in the list of the transaction types in the Appendix.

Command Format of Start Transaction

```

Format      <Req>
              <Header>
                <SourceMAC>[Source MAC]/SourceMAC>
                <DestMAC>[Destination MAC]/DestMAC>
              </Header>
              <Cmd>
                <CmdId>[Command ID]/CmdId>
                <CmdTout>[Command Timeout]/CmdTout>
              </Cmd>
              <Param>
                <Txn>
                  <TxnType>[Transaction Type]/TxnType>
                  <AccType>[Account Type]/AccType>
                  <CurrCode>[Currency Code]/CurrCode>
                  <TxnAmt>[Transaction Amount]/TxnAmt>
                  <CashbackAmt>[Cashback Amount]/CashbackAmt>
                  <TipAmt>[Tip Amount]/TipAmt>
                  <ForceOnline>[Force Online]/ForceOnline>
                  <TxnId>[Transaction ID]/TxnId>
                  <InvoiceId>[Invoice ID]/InvoiceId>
                  <CardNbr>[Card Number]/CardNbr>
                  <ExpireMonth>[Expiration Month]/ExpireMonth>
                  <ExpireYear>[Expiration Year]/ExpireYear>
                </Txn>
              </Param>
              <Auth>
                <HashType>[Hash Type]/HashType>
                <MAC>[MAC]/MAC>
              </Auth>
            </Req>
  
```

Usage To start a mag-stripe or EMV transaction for Authorization, Sale, Void or Refund.

Field Name	Presence	Field Description
[Source MAC]	Optional	RFU. The message sender's (the Host) MAC address. For example: 00:1A:B6:02:FD:FA
[Destination MAC]	Optional	RFU. The message receiver's MAC address. For example: 00:30:F0:85:00:01
[Command ID]	Mandatory	"TxnStart": The command ID of the Start Transaction.
[Command Timeout]	Optional	Setup a timeout in second for this command. There will be no timeout if this field is not present. For example: 0: No timeout. 1~300: Timeout (in second).
[Transaction Type]	Mandatory	The supported transaction types are: 1. "AuthOnly": for authorization transaction.

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		2. "AdditionalAuth": for additional authorization which is typically used in a bar or restaurant. 3. "Sale": for sale transaction. 4. "TipAdj": to add the Tip amount for sale transaction. (Tip-adjustment) 5. "AuthCapture": for authorization and capture transaction. 6. "Void": for void a specific transaction. 7. "Refund": for refund transaction. 8. "Reversal": for reversal transaction when the authorization amount is greater than settlement amount.
[Account Type]	Optional	The valid account types are: 1. "Default" 2. "Checking" 3. "Saving" 4. "Credit/Debit" The default setting is "Default" if this field is not present.
[Currency Code]	Mandatory	The transaction currency code. For example: "USD" or "840" for US dollar. "EUR" or "978" for Euro. "GBP" or "826" for Pound sterling. "JPY" or "392" for Japanese yen. Please refer to ISO4217 for detail information.
[Transaction Amount]	Mandatory	The final amount of this transaction. For example: 1.23
[Cashback Amount]	Conditional	If it is a transaction with cashback, the cashback amount should be set in this field.
[Tip Amount]	Conditional	Specify the tip amount that is included in the Transaction Amount.
[Force Online]	Conditional	"N": Normal transaction. "Y": Force the transaction to go online for authorization.
[Transaction ID]	Conditional	The transaction ID which provided from gateway for "AdditionalAuth", "Void" and "Refund" transaction only.
[Invoice ID]	Optional	Invoice number.
[Card Number]	Conditional	For manual entry the card number when mag-stripe card is unable to read.
[Card Expiration Month]	Conditional	For manual entry the card expiration month when the mag-stripe card is unable to read.
[Card Expiration Year]	Conditional	For manual entry the card expiration year when the mag-stripe card is unable to read.
[Hash Type]	Optional	RFU
[MAC]	Conditional	RFU

Response Format of Start Transaction

```

Format      <Resp>
              <Header>
                  <SourceMAC>[Source MAC]/SourceMAC>
                  <DestMAC>[Destination MAC]/DestMAC>
              </Header>
              <Cmd>
                  <CmdId>[Response ID]/CmdId>
                  <StatusCode>[Status Code]/StatusCode>
                  <StatusText>[Status Text]/StatusText>
              </Cmd>
              <Data>
                  <Txn>
                      <TxnResult>[Transaction Result]/TxnResult>
                      <TxnResultMsg>[Transaction Result Message]/TxnResultMsg>
                      <RspCode>[Response Code]/RspCode>
                      <RspText>[Response Text]/RspText>
                      <AuthCode>[Authorization Code]/AuthCode>
                      <RefNbr>[Reference Number]/RefNbr>
                      <CardType>[Card Type]/CardType>
                      <TxnId>[Transaction ID]/TxnId>
                      <TxnAmt>[Transaction Amount]/TxnAmt>
                      <CashbackAmt>[Cashback Amount]/CashbackAmt>
                      <TipAmt>[Tip Amount]/TipAmt>
                      <AppName>[Application Name]/AppName>
                      <ApplId>[Application ID]/ApplId>
                      <PAN>[Obfuscated PAN]/PAN>
                      <CVMResult>[CVM Result Code]/CVMResult>
                      <CVMText>[CVM Result Text]/CVMText>
                      <TVR>[TVR]/TVR>
                      <TSI>[TSI]/TSI>
                  </Txn>
              </Data>
              <Error>
                  <CurrState>[Current State]/CurrState>
                  <ErrCode>[Error Code]/ErrCode>
                  <ErrText>[Error Text]/ErrText>
              </Error>
              <Auth>
                  <HashType>[Hash Type]/HashType>
                  <MAC>[MAC]/MAC>
              </Auth>
          </Resp>

```

Usage Respond the result of Start Transaction command.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to Start Transaction command.
[Destination MAC]	Optional	Please refer to Start Transaction command.
[Response ID]	Mandatory	"TxnStartResp": The response ID of the Start Transaction command.
[Command Timeout]	Optional	
[Status Code]	Mandatory	Please refer to the status code table.
[Status Text]	Mandatory	Please refer to the status code table.
[Transaction Result]	Mandatory	The transaction result in two digit code. "00": Offline Approved. "01": Offline Declined. "02": Online Approved.

		"03": Online Declined. "04": Unable to go online, offline approved. "05": Unable to go online, offline declined.
[Transaction Result Message]	Mandatory	The transaction result in string format. "Offline Approved". "Offline Declined". "Online Approved". "Online Declined". "Unable to go online, offline approved". "Unable to go online, offline declined".
[Response Code]	Conditional	Response code from Gateway/Processor.
[Response Text]	Conditional	Response string from Gateway/Processor.
[Authorization Code]	Conditional	Authorization code from Gateway/Processor.
[Reference Number]	Conditional	Reference number that is provided by Gateway/Processor.
[Card Type]	Conditional	Card type of this transaction. For example: Visa, MasterCard, American Express, Discover.
[Transaction ID]	Conditional	Transaction ID that is provided by Gateway/Processor.
[Transaction Amount]	Mandatory	The final amount of this transaction. For example: 1.23
[Cashback Amount]	Conditional	If it is a transaction with cashback, the cashback amount will be output in this field.
[Tip Amount]	Conditional	Indicate the tip amount that is included in the Transaction Amount.
[Application Name]	Conditional	Application name of the EMV transaction.
[Application ID]	Conditional	Application ID of the EMV transaction.
[Obfuscated PAN]	Mandatory	Obfuscated Primary Account Number.
[CVM Result Code]	Conditional	Cardholder Verification Method result of the EMV transaction. (Please refer to EMV 4.3 Book 3 and Book 4) "1Fxxx": No CVM required. (where the xx means any value that can be ignored) "1Exx00": Signature verification required. "01xx01": Plaintext PIN verification performed by ICC but failed. "01xx02": Plaintext PIN verification performed by ICC successful. "02xxx": Enciphered PIN verified online. "03xxx": Plaintext PIN verification performed by ICC and signature. (PIN and signature) "04xx01": Enciphered PIN verification performed by ICC but failed. "04xx02": Enciphered PIN verification performed by ICC successful. "05xxx": Enciphered PIN verification performed by ICC and signature. (PIN and signature)
[CVM Result Text]	Conditional	As the description of [CVM Result Code].
[TVR]	Conditional	Terminal Verification Results for EMV transaction. (Please refer to EMV 4.3 Book 3)
[TSI]	Conditional	Transaction Status Information for EMV transaction. (Please refer to EMV 4.3 Book 3)
[Current State]	Conditional	RFU For asynchronous command/response protocol use.
[Error Code]	Conditional	RFU For asynchronous command/response protocol use.
[Error Text]	Conditional	RFU For asynchronous command/response protocol use.
[Hash Type]	Optional	RFU.
[MAC]	Conditional	RFU. (Message Authentication Code)

Flow of Sale Transaction command

Transaction Request (Host)		Transaction Response (UPE-100)
Start Sale Transaction Request message	→	
	←	UPE-100 returns Event to indicate the host to display "PLEASE SWIPE OR INSERT CARD"
	←	UPE-100 returns Event to indicate the host the card is presented and to display "PLEASE WAIT..."
	←	UPE-100 returns Event to indicate the message is sent to processor and to display "AUTHORIZING. PLEASE WAIT..."
	←	UPE-100 returns the response message indicate the transaction is approved.

Flow of Void Transaction command

Transaction Request (Host)		Transaction Response (UPE-100)
Start Void Transaction Request message	→	
	←	UPE-100 returns Event to indicate the host to display "TRANSACTION DATA UPDATING..."
	←	UPE-100 returns the response message indicate the transaction is approved.

Get Transaction Result

Retrieve the transaction result. The result is including all the information needed for receipt.

Command Format of Get Transaction Result

```

Format      <Req>
            <Header>
                <SourceMAC>[Source MAC]/</SourceMAC>
                <DestMAC>[Destination MAC]/</DestMAC>
            </Header>
            <Cmd>
                <CmdId>[Command ID]/</CmdId>
                <CmdTout>[Command Timeout]/</CmdTout>
                <StatusCode>[Status Code]/</StatusCode>
                <StatusText>[Status Text]/</StatusText>
            </Cmd>
            <Auth>
                <HashType>[Hash Type]/</HashType>
                <MAC>[MAC]/</MAC>
            </Auth>
        </Req>
  
```

Usage To retrieve the data of current transaction again.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to Start Transaction command.
[Destination MAC]	Optional	Please refer to Start Transaction command.
[Command ID]	Mandatory	"TxnGetResult": The command ID of the Get Transaction Result.
[Command Timeout]	Optional	Please refer to Start Transaction command.
[Status Code]	Mandatory	Please refer to the status code table.
[Status Text]	Mandatory	Please refer to the status code table.
[Current State]	Conditional	RFU For asynchronous command/response protocol use.
[Error Code]	Conditional	RFU For asynchronous command/response protocol use.
[Error Text]	Conditional	RFU For asynchronous command/response protocol use.
[Hash Type]	Optional	Please refer to Start Transaction command.
[MAC]	Conditional	Please refer to Start Transaction command.

Response Format of Get Transaction Result

Format Same as the Response Format of Start Transaction.

Usage Respond the previous transaction result.

Field Name	Presence	Field Description
[Response ID]	Mandatory	"TxnGetResultResp": The response ID of the Get Transaction Result command.
Others are the same as the Response Format of Start Transaction		

Cancel Transaction

To terminate a transaction before it is sent out to the payment gateway.

Command Format of Cancel Transaction

```

Format      <Req>
            <Header>
                <SourceMAC>[Source MAC]</SourceMAC>
                <DestMAC>[Destination MAC]</DestMAC>
            </Header>
            <Cmd>
                <CmdId>[Command ID]</CmdId>
                <CmdTout>[Command Timeout]</CmdTout>
            </Cmd>
            <Auth>
                <HashType>[Hash Type]</HashType>
                <MAC>[MAC]</MAC>
            </Auth>
        </Req>
  
```

Usage To cancel the transaction.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to Start Transaction command.
[Destination MAC]	Optional	Please refer to Start Transaction command.
[Command ID]	Mandatory	"TxnCancel": The command ID of the Cancel Transaction.
[Command Timeout]	Optional	Please refer to Start Transaction command.
[Hash Type]	Optional	Please refer to Start Transaction command.
[MAC]	Conditional	Please refer to Start Transaction command.

Response Format of Cancel Transaction

```

Format      <Resp>
              <Header>
                <SourceMAC>[Source MAC]</SourceMAC>
                <DestMAC>[Destination MAC]</DestMAC>
              </Header>
              <Cmd>
                <CmdId>[Response ID]</CmdId>
                <StatusCode>[Status Code]</StatusCode>
                <StatusText>[Status Text]</StatusText>
              </Cmd>
              <Error>
                <CurrState>[Current State]</CurrState>
                <ErrCode>[Error Code]</ErrCode>
                <ErrText>[Error Text]</ErrText>
              </Error>
              <Auth>
                <HashType>[Hash Type]</HashType>
                <MAC>[MAC]</MAC>
              </Auth>
            </Resp>

```

Usage The response of Cancel Transaction.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to Start Transaction command.
[Destination MAC]	Optional	Please refer to Start Transaction command.
[Response ID]	Mandatory	"TxnCancelResp": The response ID of the Cancel Transaction command.
[Status Code]	Mandatory	Please refer to the status code table.
[Status Text]	Mandatory	Please refer to the status code table.
[Current State]	Conditional	RFU For asynchronous command/response protocol use.
[Error Code]	Conditional	RFU For asynchronous command/response protocol use.
[Error Text]	Conditional	RFU For asynchronous command/response protocol use.
[Hash Type]	Optional	Please refer to Start Transaction command.
[MAC]	Conditional	Please refer to Start Transaction command.

Settlement

Perform settlement to close the batch. If pending transaction is settled during settlement process, the response of settlement command will be sent out continuously. After all pending transactions are settled and the batch is closed, the total amount will be calculated in the last response of this command.

Command Format of Settlement

```

Format      <Req>
              <Header>
                <SourceMAC>[Source MAC]</SourceMAC>
                <DestMAC>[Destination MAC]</DestMAC>
              </Header>
              <Cmd>
                <CmdId>[Command ID]</CmdId>
                <CmdTout>[Command Timeout]</CmdTout>
              </Cmd>
              <Auth>
                <HashType>[Hash Type]</HashType>
                <MAC>[MAC]</MAC>
              </Auth>
            </Req>
  
```

Usage To close the batch

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to Start Transaction command.
[Destination MAC]	Optional	Please refer to Start Transaction command.
[Command ID]	Mandatory	"TxnSettlement": The command ID of the Settlement.
[Command Timeout]	Optional	Please refer to Start Transaction command.
[Hash Type]	Optional	Please refer to Start Transaction command.
[MAC]	Conditional	Please refer to Start Transaction command.

Response Format of Settlement

```

Format      <Resp>
              <Header>
                  <SourceMAC>[Source MAC]</SourceMAC>
                  <DestMAC>[Destination MAC]</DestMAC>
              </Header>
              <Cmd>
                  <CmdId>[Response ID]</CmdId>
                  <StatusCode>[Status Code]</StatusCode>
                  <StatusText>[Status Text]</StatusText>
              </Cmd>
              <Data>
                  <Txn>
                      <TxnResult>[Transaction Result]</TxnResult>
                      <TxnResultMsg>[Transaction Result Message]</TxnResultMsg>
                      <RspCode>[Response Code]</RspCode>
                      <RspText>[Response Text]</RspText>
                      <AuthCode>[Authorization Code]</AuthCode>
                      <RefNbr>[Reference Number]</RefNbr>
                      <CardType>[Card Type]</CardType>
                      <TxnId>[Transaction ID]</TxnId>
                      <TxnAmt>[Transaction Amount]</TxnAmt>
                      <CashbackAmt>[Cashback Amount]</CashbackAmt>
                      <TipAmt>[Tip Amount]</TipAmt>
                      <BatchId>[Batch ID]</BatchId>
                      <TxnCnt>[Transaction Count]</TxnCnt>
                      <TotalAmt>[Total Amount]</TotalAmt>
                      <BatchSeqNbr>[Batch Sequence Number]</BatchSeqNbr>
                  </Txn>
              </Data>
              <Error>
                  <CurrState>[Current State]</CurrState>
                  <ErrCode>[Error Code]</ErrCode>
                  <ErrText>[Error Text]</ErrText>
              </Error>
              <Auth>
                  <HashType>[Hash Type]</HashType>
                  <MAC>[MAC]</MAC>
              </Auth>
          </Resp>

```

Usage The response of Cancel Transaction.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to Start Transaction command.
[Destination MAC]	Optional	Please refer to Start Transaction command.
[Response ID]	Mandatory	"TxnSettlementResp": The response ID of the Settlement command.
[Status Code]	Mandatory	Please refer to the status code table.
[Status Text]	Mandatory	Please refer to the status code table.
[Transaction Result]	Conditional	This field will be mandatory if a pending transaction is settled. The transaction result Online Approved. Online Declined.
[Response Code]	Conditional	This field will be mandatory if a pending transaction is settled. Response code from Gateway/Processor.
[Response Text]	Conditional	This field will be mandatory if a pending transaction is settled.

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		Response string from Gateway/Processor.
[Authorization Code]	Conditional	This field will be mandatory if a pending transaction is settled. Authorization code from Gateway/Processor.
[Reference Number]	Conditional	This field will be mandatory if a pending transaction is settled. Reference number that is provided by Gateway/Processor.
[Card Type]	Conditional	This field will be mandatory if a pending transaction is settled. Card type of this transaction. For example: Visa, MasterCard, American Express, Discover.
[Transaction ID]	Conditional	This field will be mandatory if a pending transaction is settled. Transaction ID that is provided by Gateway/Processor.
[Transaction Amount]	Conditional	This field will be mandatory if a pending transaction is settled. The final amount of this transaction. For example: 1.23
[Cashback Amount]	Conditional	This field will be mandatory if a pending transaction is settled. If it is a transaction with cashback, the cashback amount will be output in this field.
[Tip Amount]	Conditional	This field will be mandatory if a pending transaction is settled. Indicate the tip amount that is included in the Transaction Amount.
[Batch ID]	Conditional	If the Gateway/Processor supports online data capture.
[Transaction Count]	Conditional	If the Gateway/Processor supports online data capture.
[Total Amount]	Conditional	If the Gateway/Processor supports online data capture.
[Batch Sequence Number]	Conditional	If the Gateway/Processor supports online data capture.
[Current State]	Conditional	RFU For asynchronous command/response protocol use.
[Error Code]	Conditional	RFU For asynchronous command/response protocol use.
[Error Text]	Conditional	RFU For asynchronous command/response protocol use.
[Hash Type]	Optional	Please refer to Start Transaction command.
[MAC]	Conditional	Please refer to Start Transaction command.

Information Management

Retrieve the information including firmware version, date and time.

Command Format of Information Management

Format	<pre> <Req> <Header> <SourceMAC>[Source MAC]</SourceMAC> <DestMAC>[Destination MAC]</DestMAC> </Header> <Cmd> <CmdId>[Command ID]</CmdId> <CmdTout>[Command Timeout]</CmdTout> </Cmd> <Param> <Info> <Id>[Info Mgmt ID]</Id> <DateTime>[Date and Time]</DateTime> </Info> </Param> <Auth> <HashType>[Hash Type]</HashType> <MAC>[MAC]</MAC> </Auth> </Req> </pre>
---------------	---

Usage	To setup and read some information such as: <ol style="list-style-type: none"> 1. UPE-100 firmware information. 2. Connected device firmware information. 3. Setup or get UPE-100 system date/time. 4. Setup or get connected device system date/time.
--------------	--

Field Name	Presence	Field Description
[Source MAC]	Optional	RFU. The message sender's (the Host) MAC address. For example: 00:1A:B6:02:FD:FA
[Destination MAC]	Optional	RFU. The message receiver's MAC address. For example: 00:30:F0:85:00:01
[Command ID]	Mandatory	"InfoMgmt": The command ID of the Information Management.
[Command Timeout]	Optional	Setup a timeout in second for this command. There will be no timeout if this field is not present. For example: 0: No timeout. 1~300: Timeout (in second).
[Info Mgmt ID]	Mandatory	The supported Info Management ID are listed below: "GetSystemVer": Get system firmware version. "GetPeripheralVer": Get peripheral firmware version. "GetSystemTime": Get system date/time. "SetSystemTime": Set system date/time "GetPeripheralTime": Get peripheral date/time.

		"SetPeripheralTime": Set peripheral date/time. "RetrievePaymentProcessorInfo": Retrieve the credential information that was configured in the system.
[Date and Time]	Conditional	This field should be mandatory when the [Info Mgmt ID] is for date/time setting. The input data format should be YYYYMMDDhhmmss.
[Hash Type]	Optional	RFU.
[MAC]	Conditional	RFU. (Message Authentication Code)

Response Format of Info Management

```

Format      <Resp>
              <Header>
                <SourceMAC>[Source MAC]</SourceMAC>
                <DestMAC>[Destination MAC]</DestMAC>
              </Header>
              <Cmd>
                <CmdId>[Response ID]</CmdId>
                <StatusCode>[Status Code]</StatusCode>
                <StatusText>[Status Text]</StatusText>
              </Cmd>
              <Data>
                <Info>
                  <Id>[Info Mgmt ID]</Id>
                  <SysVer>[System Firmware Version]</SysVer>
                  <DeviceVer>[Peripheral Firmware Version]</DeviceVer>
                  <DateTime>[Date and Time]</DateTime>
                  <SerialNo>[Serial Number]</SerialNo>
                  <LicenseId>[License ID]</LicenseId>
                  <SiteId>[Site ID]</SiteId>
                  <DeviceId>[Device ID]</DeviceId>
                  <DeveloperId>[Developer ID]</DeveloperId>
                  <VersionNo>[Version Number]</VersionNo>
                  <ClerkId>[Clerk ID]</ClerkId>
                </Info>
              </Data>
              <Error>
                <CurrState>[Current State]</CurrState>
                <ErrCode>[Error Code]</ErrCode>
                <ErrText>[Error Text]</ErrText>
              </Error>
              <Auth>
                <HashType>[Hash Type]</HashType>
                <MAC>[MAC]</MAC>
              </Auth>
            </Resp>

```

Usage The response of Info Management.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to Start Transaction command.
[Destination MAC]	Optional	Please refer to Start Transaction command.
[Response ID]	Mandatory	"InfoMgmtResp": The response ID of the Information Management command.
[Status Code]	Mandatory	Please refer to the status code table.
[Status Text]	Mandatory	Please refer to the status code table.
[Info Mgmt ID]	Mandatory	Same as [Info Mgmt ID] of the Information Management command.
[System Firmware Version]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "GetSystemVer".
[Peripheral Firmware Version]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "GetPeripheralVer".
[Date and Time]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "GetSystemTime" or "GetPeripheralTime".
[License ID]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "RetrievePaymentProcessorInfo" and the existing connected Processor server is Heartland Portico.

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[Site ID]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "RetrievePaymentProcessorInfo" and the existing connected Processor server is Heartland Portico.
[Device ID]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "RetrievePaymentProcessorInfo" and the existing connected Processor server is Heartland Portico.
[Developer ID]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "RetrievePaymentProcessorInfo" and the existing connected Processor server is Heartland Portico.
[Version Number]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "RetrievePaymentProcessorInfo" and the existing connected Processor server is Heartland Portico.
[Clerk ID]	Conditional	This field will be mandatory when the [Info Mgmt ID] is "RetrievePaymentProcessorInfo" and the existing connected Processor server is Heartland Portico.
[Current State]	Conditional	RFU For asynchronous command/response protocol use.
[Error Code]	Conditional	RFU For asynchronous command/response protocol use.
[Error Text]	Conditional	RFU For asynchronous command/response protocol use.
[Hash Type]	Optional	Please refer to Start Transaction command.
[MAC]	Conditional	Please refer to Start Transaction command.

Report Management

Get pending, declined or failed deferred (as known as store and forward) transactions.

Command Format of Report Management

```

Format      <Req>
              <Header>
                  <SourceMAC>[Source MAC]</SourceMAC>
                  <DestMAC>[Destination MAC]</DestMAC>
              </Header>
              <Cmd>
                  <CmdId>[Command ID]</CmdId>
                  <CmdTout>[Command Timeout]</CmdTout>
              </Cmd>
              <Param>
                  <Report>
                      <Id>[Report Mgmt ID]</Id>
                  </Report>
              </Param>
              <Auth>
                  <HashType>[Hash Type]</HashType>
                  <MAC>[MAC]</MAC>
              </Auth>
          </Req>
  
```

Usage To view or delete all transaction records which were:

1. Offline approved or all pending transaction log (including deferred authorization transactions, also called store-and-forward).
2. Declined or failed of the deferred authorization transaction.

Field Name	Presence	Field Description
[Source MAC]	Optional	RFU. The message sender's (the Host) MAC address.
[Destination MAC]	Optional	RFU. The message receiver's MAC address.
[Command ID]	Mandatory	"ReportMgmt": The command ID of the Report Management.
[Command Timeout]	Optional	Setup a timeout in second for this command. There will be no timeout if this field is not present. For example: 0: No timeout. 1~300: Timeout (in second).
[Report Mgmt ID]	Mandatory	The supported Report Management ID are listed below: "ViewPendingRecord": View all pending transaction records which are not yet added into the batch on gateway/processor server or not yet authorized online. "DelPendingRecord": Delete all pending transaction records. Caution: Please make sure all pending transactions are settled before delete. "ViewFailedRecord": View all transaction records of the deferred authorization which were declined or failed. That means these transactions were forced to approve offline due to the network communication problem, but afterward the transactions are declined or failed for online authorization. "DelFailedRecord": Delete all declined and failed transaction records.
[Hash Type]	Optional	RFU.
[MAC]	Conditional	RFU.

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Response Format of Report Management

```

Format      <Resp>
              <Header>
                <SourceMAC>[Source MAC]</SourceMAC>
                <DestMAC>[Destination MAC]</DestMAC>
              </Header>
              <Cmd>
                <CmdId>[Response ID]</CmdId>
                <StatusCode>[Status Code]</StatusCode>
                <StatusText>[Status Text]</StatusText>
              </Cmd>
              <Data>
                <Report>
                  <Id>[Report Mgmt ID]</Id>
                  <InvoiceId>[Invoice ID]</InvoiceId>
                  <TxnAmt>[Transaction Amount]</TxnAmt>
                </Report>
              </Data>
              <Error>
                <CurrState>[Current State]</CurrState>
                <ErrCode>[Error Code]</ErrCode>
                <ErrText>[Error Text]<ErrText>
              </Error>
              <Auth>
                <HashType>[Hash Type]</HashType>
                <MAC>[MAC]</MAC>
              </Auth>
            </Resp>

```

Usage The response data format of Report Management.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to the command format of Report Management.
[Destination MAC]	Optional	Please refer to the command format of Report Management.
[Response ID]	Mandatory	"ReportMgmtResp": The response ID of the Report Management command.
[Status Code]	Mandatory	Please refer to the status code table.
[Status Text]	Mandatory	Please refer to the status code table.
[Report Mgmt ID]	Mandatory	Same as [Report Mgmt ID] of the Report Management command.
[Invoice ID]	Conditional	Invoice ID of the transaction for viewing request.
[Txn Amount]	Conditional	Transaction amount of this specific transaction.
[Current State]	Conditional	RFU For asynchronous command/response protocol use.
[Error Code]	Conditional	RFU For asynchronous command/response protocol use.
[Error Text]	Conditional	RFU For asynchronous command/response protocol use.
[Hash Type]	Optional	Please refer to the command format of Report Management.
[MAC]	Conditional	Please refer to the command format of Report Management.

Diagnostic Management

Command Format of Diagnostic Management

```

Format      <Req>
            <Header>
                <SourceMAC>[Source MAC]/SourceMAC>
                <DestMAC>[Destination MAC]/DestMAC>
            </Header>
            <Cmd>
                <CmdId>[Command ID]/CmdId>
                <CmdTout>[Command Timeout]/CmdTout>
            </Cmd>
            <Param>
                <Diag>
                    <Id>[Diag Mgmt ID]/Id>
                </Diag>
            </Param>
            <Auth>
                <HashType>[Hash Type]/HashType>
                <MAC>[MAC]/MAC>
            </Auth>
        </Req>

```

Usage To diagnose or setup UPE-100.

Field Name	Presence	Field Description
[Source MAC]	Optional	RFU. The message sender's (the Host) MAC address.
[Destination MAC]	Optional	RFU. The message receiver's MAC address.
[Command ID]	Mandatory	"DiagMgmt": The command ID of the Diagnostic Management.
[Command Timeout]	Optional	Setup a timeout in second for this command. There will be no timeout if this field is not present. For example: 0: No timeout. 1~300: Timeout (in second).
[Diag Mgmt ID]	Mandatory	The supported Diagnostic ID are listed below. "FindDevice": To discover the IP address, MAC address and serial number of the UPE-100 which is connected on the local network. This command will search the network for all UPE-100 that respond to its requests and provide the information about them. Notice: Host has to send the "FindDevice" command to the IP address 255.255.255.255 at port 23 as broadcasting, all devices which are connected on the local network segment will respond device's IP address, MAC address, serial number to the host. "ResetToDefault": Reset all settings to manufacturing default. Notice: Host has to send the "ResetToDefault" command with the [Destination MAC] field to reset the setting for the particular UPE-100.
[Hash Type]	Optional	RFU.
[MAC]	Conditional	RFU.

Response Format of Diagnostic Management

```

Format      <Resp>
              <Header>
                <SourceMAC>[Source MAC]</SourceMAC>
                <DestMAC>[Destination MAC]</DestMAC>
              </Header>
              <Cmd>
                <CmdId>[Response ID]</CmdId>
                <StatusCode>[Status Code]</StatusCode>
                <StatusText>[Status Text]</StatusText>
              </Cmd>
              <Data>
                <Diag>
                  <Id>[Diag Mgmt ID]</Id>
                  <IPAddr>[Assigned IP Addr]</IPAddr>
                  <MACAddr>[MAC Addr]</MACAddr>
                  <SerialNbr>[Serial Number]</SerialNbr>
                  <TestResult>[Test Result]</TestResult>
                </Diag>
              </Data>
              <Error>
                <CurrState>[Current State]</CurrState>
                <ErrCode>[Error Code]</ErrCode>
                <ErrText>[Error Text]<ErrText>
              </Error>
              <Auth>
                <HashType>[Hash Type]</HashType>
                <MAC>[MAC]</MAC>
              </Auth>
            </Resp>

```

Usage The response data format of Diagnostic Management.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to the command format of Diagnostic Management.
[Destination MAC]	Optional	Please refer to the command format of Diagnostic Management.
[Response ID]	Mandatory	"DiagMgmtResp": The response ID of the Diagnostic Management command.
[Status Code]	Mandatory	Please refer to the status code table.
[Status Text]	Mandatory	Please refer to the status code table.
[Diag Mgmt ID]	Mandatory	Same as [Diag Mgmt ID] of the Diagnostic Management command.
[Assigned IP Addr]	Conditional	The IP address that UPE-100 is assigned by DHCP server or the configured static IP address.
[MAC Addr]	Conditional	The configured MAC address for the UPE-100.
[Serial Number]	Conditional	The serial number of the UPE-100.
[Test Result]	Conditional	The result of diagnostic test. "Test Succeed": Diagnostic test is okay. "Test Fail": Diagnostic test is failed.
[Current State]	Conditional	RFU For asynchronous command/response protocol use.
[Error Code]	Conditional	RFU For asynchronous command/response protocol use.
[Error Text]	Conditional	RFU For asynchronous command/response protocol use.
[Hash Type]	Optional	Please refer to the command format of Report Management.
[MAC]	Conditional	Please refer to the command format of Report Management.

System Management

The system management is used to control the whole system or verify if the system software needs to be upgraded.

Command Format of System Management

Format	<pre> <Req> <Header> <SourceMAC>[Source MAC]/SourceMAC> <DestMAC>[Destination MAC]/DestMAC> </Header> <Cmd> <CmdId>[Command ID]/CmdId> <CmdTout>[Command Timeout]/CmdTout> </Cmd> <Param> <Sys> <Id>[System Mgmt ID]/Id> <AlarmCount>[Alarm Iteration Count]/AlarmCount> <AlarmDuration>[Alarm On Time]/AlarmDuration> <AlarmInterval>[Alarm Off Time]/AlarmInterval> </Sys> </Param> <Auth> <HashType>[Hash Type]/HashType> <MAC>[MAC]/MAC> </Auth> </Req> </pre>
Usage	To manage UPE-100 for housekeeping, dumping system event log, updating firmware and configurations.

Field Name	Presence	Field Description
[Source MAC]	Optional	RFU. The message sender's (the Host) MAC address.
[Destination MAC]	Optional	RFU. The message receiver's MAC address.
[Command ID]	Mandatory	"SystemMgmt": The command ID of the System Management.
[Command Timeout]	Optional	Setup a timeout in second for this command. There will be no timeout if this field is not present. For example: 0: No timeout. 1~300: Timeout (in second).
[System Mgmt ID]	Mandatory	The supported System Management ID are listed below. "RebootSystem": To reboot the system and the peripheral. "AudibleAlarm": To Control the system's audible alarm. "UpdateSysProgram": To verify if the system firmware has to be updated or not.
[Alarm Iteration Count]	Conditional	This field will be mandatory when the [System Mgmt ID] is "AudibleAlarm". Iteration count of the beeps (1 ~ 9).
[Alarm On Time]	Conditional	This field will be mandatory when the [System Mgmt ID] is "AudibleAlarm". Duration time of each beep, in milliseconds (0 ~ 9990).

[Alarm Off Time]	Conditional	This field will be mandatory when the [System Mgmt ID] is "AudibleAlarm". The inactive interval between each beep, in milliseconds (0 ~ 9990).
[Hash Type]	Optional	RFU.
[MAC]	Conditional	RFU.

Response Format of System Management

```

Format      <Resp>
              <Header>
                  <SourceMAC>[Source MAC]</SourceMAC>
                  <DestMAC>[Destination MAC]</DestMAC>
              </Header>
              <Cmd>
                  <CmdId>[Response ID]</CmdId>
                  <StatusCode>[Status Code]</StatusCode>
                  <StatusText>[Status Text]</StatusText>
              </Cmd>
              <Data>
                  <Sys>
                      <Id>[System Mgmt ID]</Id>
                  </Sys>
              </Data>
              <Error>
                  <CurrState>[Current State]</CurrState>
                  <ErrCode>[Error Code]</ErrCode>
                  <ErrText>[Error Text]</ErrText>
              </Error>
              <Auth>
                  <HashType>[Hash Type]</HashType>
                  <MAC>[MAC]</MAC>
              </Auth>
          </Resp>

```

Usage The response data format of Diagnostic Management.

Field Name	Presence	Field Description
[Source MAC]	Optional	Please refer to the command format of Diagnostic Management.
[Destination MAC]	Optional	Please refer to the command format of Diagnostic Management.
[Response ID]	Mandatory	"SystemMgmtResp": The response ID of the Diagnostic Management command.
[Status Code]	Mandatory	Please refer to the status code table.
[Status Text]	Mandatory	Please refer to the status code table.
[System Mgmt ID]	Mandatory	Same as [System Mgmt ID] of the System Management command.
[Current State]	Conditional	RFU For asynchronous command/response protocol use.
[Error Code]	Conditional	RFU For asynchronous command/response protocol use.
[Error Text]	Conditional	RFU For asynchronous command/response protocol use.
[Hash Type]	Optional	Please refer to the command format of Report Management.
[MAC]	Conditional	Please refer to the command format of Report Management.

Flow of Update System Program command**Scenario 1:****System is up-to-date**

Update Request (Host)		Update Response (UPE-100)
Send Update Request message	→	
	←	UPE-100 returns the status code 0000 to indicate that the system is up-to-date.

Scenario 2:**System update is needed**

Update Request (Host)		Update Response (UPE-100)
Send Update Request message	→	
	←	UPE-100 returns the status code FF13 to indicate that the system has to be update.
	←	UPE-100 returns the Event (Message ID: 40) to indicate that the system update file is downloading.
	←	UPE-100 returns the Event (Message ID: 41) to indicate that the file is successful downloaded and the system is updating now.
	←	IMPORTANT NOTICES: Please do not power off the UPE-100 and wait around 1 minute until the peripheral is power-up or the network communication is established between the Host and UPE-100.

Scenario 3:**File download fail for system update**

Update Request (Host)		Update Response (UPE-100)
Send Update Request message	→	
	←	UPE-100 returns the status code FF13 to indicate that the system has to be update.
	←	UPE-100 returns the Event (Message ID: 40) to indicate that the system update file is downloading.
	←	UPE-100 returns the Event (Message ID: 15) to indicate the processing error.

Scenario 4:
System update fail

Update Request (Host)		Update Response (UPE-100)
Send Update Request message	→	
	←	UPE-100 returns the status code FF13 to indicate that the system has to be update.
	←	UPE-100 returns the Event (Message ID: 40) to indicate that the system update file is downloading.
	←	UPE-100 returns the Event (Message ID: 41) to indicate that the system is updating.
	←	UPE-100 returns the Event (Message ID: 15) to indicate the processing error.

Appendix A - transaction types

List of the transaction types

Transaction Type	Description
AuthOnly	This transaction authorizes a credit card transaction. These authorization only transactions are not added to the batch to be settled. They can be added to a batch at a later time using AuthCapture . Approved authorizations that have not yet been added to a batch are called open auths.
AdditionalAuth	This transaction is typically used in a bar or restaurant situation where the merchant obtains the payment information for an original AuthOnly but does not want to hold the card or ask for it on each additional authorization.
AuthCapture	This transaction is primarily used to add a previously approved open authorization from AuthOnly to the current open batch. If a batch is not open this transaction will create one. It also provides the opportunity to alter data associated with the transaction (i.e. add a tip amount).
Sale	Also known as Auth and Capture. This transaction authorizes the card for the amount of funds for the transaction and also settles the transaction. This is most often used in Retail environments where the goods are transferred to the customer at the time of the transaction.
TipAdj	Add the tip amount onto a Sale transaction from Sale .
Void	This transaction is used to cancel an open auth or remove a transaction from the current open batch.
Refund	This transaction allows the merchant to return funds back to the cardholder. Returns can be for the entire amount associated with the original sale or a partial amount.
Reversal	This transaction cancels a prior authorization in the current open batch or partially reduces the amount of a prior authorization for AuthOnly .

Support Business Type

Retail

Perform a **Sale** transaction with the total amount.

Quick Service Restaurant (QSR)

There are several ways to perform complete a QSR transaction.

1. If the tip is known before processing the transaction, simply perform a **Sale** transaction with both total and tip amount.
2. If the tip is known afterward,
 - a. Perform a **Sale** transaction and then use **TipAdj** transaction to add the tip.
 - b. Or, Perform an **AuthOnly** transaction and then use **AuthCapture** transaction to add the tip.

Restaurant

1. Perform a **Sale** transaction and then use **TipAdj** transaction to add the tip.
2. Or, Perform an **AuthOnly** transaction and then use **AuthCapture** transaction to add the tip.

Open Table

Perform an **AuthOnly** transaction to open a table. use couple **AdditionalAuth** transactions to keep adding the transaction without credit card. Then, use **AuthCapture** transaction to add the tip and close the table.

Please note it is required to perform settlement (**TxnSettlement**) for all business types in order to close the batch.

Appendix B - Transaction logs

Sale Transaction

Host Request Message		Event or Response message	Description
<pre><Req> <Cmd> <CmdId>TxnStart</CmdId> <CmdTout>000</CmdTout> </Cmd> <Param> <Txn> <TxnType>Sale</TxnType> <AcctType>Default</AcctType> <TxnAmt>15.01</TxnAmt> <TipAmt></TipAmt> <CurrCode>USD</CurrCode> <InvoiceId>1702080014</InvoiceId> </Txn> </Param> </Req></pre>	→		Start a sale transaction with Amount: \$15.01 Currency code: USD Invoice ID: 1702080014
	←	<pre><Event> <MesgId>24</MesgId> <MesgStr>PLEASE SWIPE OR INSERT CARD</MesgStr> </Event></pre>	Event message indicate the host to display "PLEASE SWIPE OR INSERT CARD"
Credit card is swiped or inserted			
	←	<pre><Event> <MesgId>14</MesgId> <MesgStr>PLEASE WAIT...</MesgStr> </Event></pre>	Event message indicate the host to display "PLEASE WAIT..."
	←	<pre><Event> <MesgId>27</MesgId> <MesgStr>AUTHORIZING. PLEASE WAIT...</MesgStr> </Event></pre>	Event message indicate the host to display "AUTHORIZING. PLEASE WAIT..."
	←	<pre><Resp> <Cmd> <CmdId>TxnStartResp</CmdId> <StatusCode>0000</StatusCode> <StatusText>Successful</StatusText> </Cmd> <Data> <Txn> <TxnResult>02</TxnResult> <TxnResultMsg>Online Approved</TxnResultMsg> <RspCode>00</RspCode> <RspDT>2017-02-08T18:21:55.2611878</RspDT> <RspText>APPROVAL</RspText> <TxnID>1017167573</TxnID> </Txn> <Data> </Resp></pre>	Response message with Status Code: 0000 Status Text: Successful Transaction Result: 02 Response Code: 00 Response Date/Time Response Text: Approval Transaction ID: 1017167573

Void Transaction

Host Request Message		Event or Response message	Description
<pre> <Req> <Cmd> <CmdId>TxnStart</CmdId> <CmdTout>0</CmdTout> </Cmd> <Param> <Txn> <TxnType> Void </TxnType> <TxnId>1017179082</TxnId> </Txn> </Param> </Req> </pre>	→		Start a void transaction with Transaction ID: 1017179082
	←	<pre> <Event> <MesgId>36</MesgId> <MesgStr>TRANSACTION DATA UPDATING...</MesgStr> </Event> </pre>	Event message indicate the host to display "TRANSACTION DATA UPDATING..."
	←	<pre> <Event> <MesgId>34</MesgId> <MesgStr>PROCESSING OK</MesgStr> </Event> </pre>	Event message indicate the host to display "PROCESSING OK"
	←	<pre> <Resp> <Cmd> <CmdId>TxnStartResp</CmdId> <StatusCode>0000</StatusCode> <StatusText>Successful</StatusText> </Cmd> <Data> <Txn> <TxnID>1017169738</TxnID> </Txn> </Data> </Resp> </pre>	Response message with Status Code: 0000 Status Text: Successful Transaction ID: 1017169738

Appendix C – Prompt Message Table

Message ID	Message String	Description
01	(AMOUNT)	(EMV reserved) Indicates the transaction amount to both the cardholder and attendant.
02	(AMOUNT) OK?	(EMV reserved) Invites a response from the cardholder indicating agreement or disagreement with the displayed transaction amount. Agreement or disagreement should be denoted by pressing the 'Enter' or 'Cancel' keys, respectively.
03	APPROVED	(EMV reserved) Indicates to the cardholder and attendant that the transaction has been approved.
04	PLEASE CALL YOUR BANK	(EMV reserved) Indicates to the cardholder or attendant to contact the issuer or acquirer, as appropriate, such as for voice referrals.
05	CANCEL OR ENTER	(EMV reserved) When used with the 'ENTER PIN' message, instructs the cardholder to validate PIN entry by pressing the 'Enter' key or to cancel PIN entry by pressing the 'Cancel' key.
06	CARD ERROR	(EMV reserved) Indicates to the cardholder or attendant a malfunction of the card or a non-conformance to answer-to-reset.
07	DECLINED	(EMV reserved) Indicates to the cardholder and attendant that the online or offline authorization has not been approved.
08	PLEASE ENTER AMOUNT	(EMV reserved) Instructs the cardholder at an unattended terminal or the attendant at an attended terminal to enter the amount of the transaction. Confirmation or cancellation of amount entry should be denoted by pressing the 'Enter' or 'Cancel' keys, respectively.
09	PLEASE ENTER PIN	(EMV reserved) Invites the cardholder to enter the PIN for the first and subsequent PIN tries. An asterisk is displayed for each digit of the PIN entered.
10	INCORRECT PIN	(EMV reserved) Indicates that the PIN entered by the cardholder does not match the reference PIN.
11	PLEASE INSERT CARD	Instructs to insert the chip card into the reader.

		Correct insertion should be noted by displaying the message 'PLEASE WAIT' to reassure the cardholder or attendant that the transaction is being processed.
12	NOT ACCEPTED	(EMV reserved) Indicates to the cardholder and attendant that the application is not supported or there is a restriction on the use of the application; for example, the card has expired.
13	PIN OK	(EMV reserved) Indicates that offline PIN verification was successful.
14	PLEASE WAIT...	Indicates to the cardholder and attendant that the transaction is being processed.
15	PROCESSING ERROR	Displayed to the cardholder or attendant when the card is removed before the processing of a transaction is complete, or when the transaction is aborted because of a power failure, or when the system or terminal has malfunctioned, such as communication errors or time-outs.
16	PLEASE REMOVE CARD	Instructs to remove the chip card from the reader.
17	PLEASE USE CHIP CARD	Instructs to insert chip card into the reader, when the chip card and magnetic stripe readers are not combined.
18	PLEASE USE MAGSTRIPE CARD	Instructs to swipe the magnetic stripe card after chip card reading fails, when the chip card and magnetic stripe readers are not combined.
19	PLEASE TRY AGAIN	Invites the cardholder to re-execute the last action performed.
20	WELCOME	(EMV reserved) This message is displayed prior to a cardholder presenting a card. This message is used to represent the "Idle" status for a reader.
21	PLEASE TAP CARD	(EMV reserved) This message asks the cardholder to present a card to the reader. The amount may also be shown with this message. This message is used to represent the "Ready to Read" status for a reader.
22	PROCESSING...	This message may be displayed whilst the reader is dealing with the transaction. This message is used to represent the "Processing" status for a reader.
23	CARD READ OK, PLEASE REMOVE CARD	(EMV reserved) This message is used to indicate that the card may be removed from the reader field. This message is used to represent the "Card Read Successfully" status or event for a reader.

24	PLEASE SWIPE OR INSERT CARD	This message indicates that the card cannot complete the transaction using the contactless interface and that the contacts or mag-stripe should be tried instead. This message is used to represent the “Conditions for use of contactless not satisfied” status or event for a reader.
25	PLEASE PRESENT ONE CARD ONLY	(EMV reserved) This message indicates that a collision has been detected and that the cardholder should present only one card. This message is used to represent the “Contactless collision detected” status or event for a reader.
26	APPROVED. PLEASE SIGN	(EMV reserved) This message may be displayed to inform the cardholder that an authorization (online or offline) has been obtained and a signature is required.
27	AUTHORIZING. PLEASE WAIT...	This message may be displayed to inform the cardholder that an online authorization is in progress.
28	PLEASE TRY ANOTHER CARD	This message may be displayed to inform the cardholder that a new contactless card or another interface is to be used for this transaction.
29	PLEASE INSERT CARD	(EMV reserved) This message may be displayed to inform the cardholder that the chip card should be inserted into the chip slot.
30		No message displayed. The display is cleared.
31		RFU
32	PLEASE SEE YOUR PHONE FOR INSTRUCTION	(EMV reserved) This message is displayed if in order to complete the transaction, the cardholder must interact with their mobile device (e.g. enter a confirmation code as a CVM). This message is displayed to the cardholder if a transaction has started, but in order to complete the transaction, the consumer device requires specific actions done on the consumer device itself. The message represents a variant of a “Processing Error” status or event with a specific appropriate error message.
33	PLEASE TAP CARD AGAIN	This message may be displayed in two situations: 1. after response to an online request where the card is requested to be presented again 2. if an error has occurred that cannot be recovered immediately but may be corrected if the card is presented again. The amount may also be shown with this message.
34	PROCESSING OK	Processing is done successfully.

35	TRANSACTION REVERSAL	Reversal transaction is processing.
36	TRANSACTION DATA UPDATING...	Transaction data is updating.
37	TRANSACTION CANCELED	The transaction is canceled.
38	AUTHORIZATION DEFERRED	The transaction authorization is deferred.
39	SETTLEMENT PROCESSING...	Settlement is processing.
40	SYSTEM PROGRAM DOWNLOADING...	The file is downloading for system update.
41	SYSTEM PROGRAM UPDATING...	The system is updating.