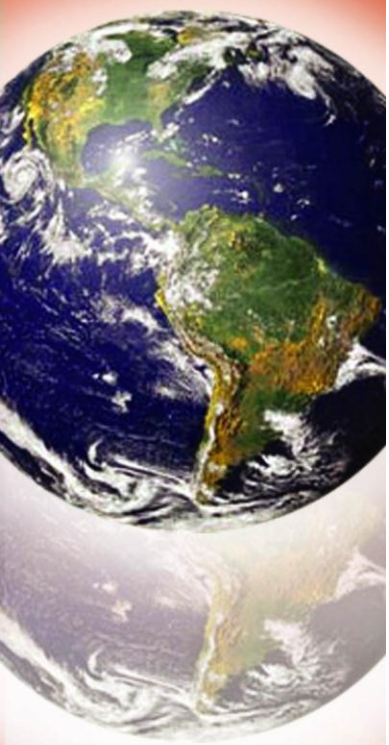

Chase Paymentech ECR Interface to SoftPay Version 1.0.3

Reference Guide

Application IDs: AECR400E VX Evolution

May 2, 2013
Document Version 1.0.3e

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REVISION HISTORY

Revision	Date	Project #	Author	Description
3.09A	06/13/08	AM79430	Edna_R1	Document interface activity between a generic ECR device and standard SoftPay applications.
3.09B	06/20/08	AM79430	Edna_R1	Added Config parameter to set Comm port. Added Error code information Added Reset Interface Operation Added Application ID information. Added Communication Protocol Information.
3.09C	06/25/08	AM79430	Edna_R1	Correct Incoming packet sample/ Update Transaction/Operations table to correct Operation Ids. Update Protocol information Changed Void Operation ID Updated #BEEP Config. Information Updated Application ID information.
3.09D	07/08/08	AM79430	T_Mike_D7	Added Card Issuer Code (11031) to ECR response packet
3.09E	07/14/08	AM79430	T_Mike_D7	Explain that empty fields will not be forwarded to SP app Field 11011 is spaces for Offline Sale Note that Decline Codes, field id 11005, are host specific Change size of Card Issuer Code (11031) to six digits. Change default RECVTO to 1000 Split Transaction/Operation Table into multiple tables, one for each host
3.09F (released as app. version 1.00)	08/11/08	AM79430	T_Mike_D7	Rewrite Transaction and Operation Flows section to reflect the use of host-specific ID's Add TSYS & BAMS to Transaction/Operation Reference Tables. Note that user must press asterisk key to return from ECR Application ID screen to VMAC Menu.
1.0.1A	05/18/09-05/21/09	AM81110	Edna_R1	1. Added a new ECR Interface field, TRAN_FIELD. 2. Added express configurable fields for Op ID (OPID1-6) Trans ID (TRID1-6) and Trans Type Msg. (TRTM1-6). 3. Updated Incoming Record Samples using new TRAN_FIELD. 4. Added information regarding Config. Variable Conversion. 5. Updated Transaction/Operation Reference Table with IP Charge settings which are defaults and added new Config variables to the table.

Revision	Date	Project #	Author	Description
1.0.1B	05/18/09- 05/21/09	AM81110	Edna_R1	**I/F ECR->SoftPay- Outgoing Record:** Added Outgoing Record fields.: 11012 “ERROR_TEXT” and 11013 “ERROR_LOC_CODE” for IPCharge use. **Additional Information-Error Codes:**: Added Error 106 – “Format Error”. **Additional Information-Config Variables**: Added value 7 toOPIDn for Refund Store/Fwd. **Transaction/Operation Reference Tables:** Added additional IP Charge Refund transaction for Store & Forward transactions.
1.0.1C	08/12/09	AM81110	Tim_M1	Added the IPCharge Response field matrix showing which response fields indicate an error occurred.
1.0.1D	08/17/09	AM81110	Tim_M1	Added additional information on the ERROR_TEXT response values.
1.0.1E	09/09/09 - 09/23/09	AM81110	Jana_H1	Removed features from document shown in revision 1.0.1A as changes were never included in application update Added outgoing fields CARD_ACCT_LAST4_OUT - 11050 and ENTRY_INDICATOR_OUT – 11051
1.0.1F	09/25/09	AM81110	Jana_H1	Renamed application version (1.0.1) Removed reference to ECR being out of scope if using CARD_ACCT_LAST4_OUT [11050] field ID Removed reference to host specific error codes Updated notes throughout the document to clarify that ECRI application never receives track data and always sends truncated account number data to ECR device
1.0.1G	11/12/09	AM81110	Jana_H1	Renamed application version back to 1.0.0 – updates made but version number not changing Updated for functionality added in version H
1.0.1H	12/03/09	AM81110	Jana_H1	Updated for release version 1.01
1.0.1I	01/28/10	AM81110	Tim_M1	Added the following field: Outgoing record 11052 - Masked Account Number
1.01J	02/01/08	AM81110	Tim_M1	Add the following field Incoming record 10050 – Ctroutd
1.02a	12/14/10	AM83670	Tim_M1	Added the following features: • Allow POS to cancel a transaction. • Support for Payware Connect Duplicate checking • Vx520 support • Send Gift card balance information to POS. • Accept Invoice number from POS. • Defined EMV tag fields.
1.02b	12/23/11		Jeri_B1	Resolved formatting errors.
1.02b	12/23/11		Tim_M1	Added Reward tags
1.02c	6/11/12		Tim_M1	Added EBT tags
1.02d	6/11/12		Tim_M1	Added Credit Application fields

Revision	Date	Project #	Author	Description
1.02e	10/03/12		Randy_M1	Added new error code “444” to handle Softpay not available. Added Config.usr values to set to enable USB connectivity.
1.03c	23/04/13		Randy_M1	Updated Comm Port Options for connectivity between the ECR and the Pinpad.
1.03d	24/04/13		Randy_M1	Updated CommPort for Vx820 USB to use separate communication port of ‘2’ for USB.
1.03e	02/04/13		Randy_M1	Change cable picture for the Vx810/Vx820 Duet Added Gift Card transaction type ‘12’.

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Interface Between ECR and SoftPay

This document describes the generic interface application that operates between an ECR device and a SoftPay application using the standard Multi Application Interface flexi-record. A generic ECR can send transaction packets through the ECR Interface (ECRI) application to communicate with the SoftPay application, which will process the transactions. SoftPay will send the respective response packets through the ECRI application back to the ECR.

Incoming and Outgoing Records

The fields used in the incoming and outgoing interface records are described below. By writing to the identified fields and formats, virtually any ECR device can send transactions to the SoftPay application for processing.

In order to send a transaction request through the interface to a SoftPay application, the operation ID, at minimum, must be sent to the interface application. Additional fields may be optionally included as they apply to the requested operation. The more data provided by the ECR, the less input is required on the SoftPay terminal. Various fields in the table below will be required to be input on either the ECR or the SoftPay terminal in order to complete a specific transaction. By the nature of being a generic interface to SoftPay, there is some additional prompting and input that can only occur on the SoftPay terminal for some operations.

In addition to the Operation ID, only the necessary data elements should be communicated. The applicable field IDs and values should be sent by the ECR with no extraneous field Ids, filler or field separators.

NOTE	If no data is provided by the ECR for a field id, then that field id will not be forwarded to the SoftPay application. ECR integration must develop to ignore any tags that the ECR software does not require.

Incoming Record

The following table describes the Field Ids for the incoming records from the ECR.

Field ID	Description	Data Type	Length	Req
EXTERN_APP_NAME (10000X)	Field identifying the requesting apps logical name. Defaults to ECR Interface App Name ***VeriFone Defined***	Alphanumeric	<= 15	N
OPERATION_ID (10001)	Operation Code for SoftPay operation	Numeric		Y
TRANSACTION_ID (10002)	Transaction Code for SoftPay transaction	Numeric		N
BASE_AMOUNT_IN (10007)	Base Transaction Amount	Numeric		N
TAX_AMOUNT (10008)	Tax Amount	Numeric		N
TIP_AMOUNT (10009)	Tip Amount	Numeric		N
CLERK_ID (10010)	Clerk/Server ID	String	<=4	N
TRAN_TYPE_MESSAGE (10022)	Transaction Message Id for SoftPay message to be displayed **NOTE:** Default to standard message.	Numeric		N
MERCH_ID (10026)	Merchant Identification Number (For Future Use) **NOTE:** Not currently supported in SoftPay application	Numeric		N
TRANSACTION_DATE (10027)	Transaction Date when received from other Application. MMDDYY	Numeric	6	N
TRANSCTION_TIME (10028)	Transaction Time when received from other Application. HHMMSS	Alphanumeric	6	N
MERCHANT_NUMBER (10029)	Merchant Index number	Numeric		N

NOTE The ECRI application is not designed to accept card account entry (either swipe, manual, or otherwise) from the ECR device. All card account entry shall be processed through the SoftPay application and only the last four (4) and first six (6) digits of the account number will be returned to the ECR device.

NOTE Currently Chase Paymentech ECRi does not support cancel command

Record Format

The ECR must send the required data using the information in the above table in the following format. The field id and field data should be sent as strings.

- <STX>
- field id
- 0x5e (caret)
- field data
- 0x5e
- field id
- 0x5e
- field data
- 0x5e
- <ETX>
- <LRC>

Incoming Record Refund Sample

The following is an example of a Sale packet that the Interface application expects from the ECR.

```
<STX>10001^1^10002^1^10007^15956^10008^921^10009^2500^10022^65613^
<ETX><LRC>
```

Incoming Record Reset Sample

The following is an example of a Reset Interface packet.

```
<STX>10001^0^<ETX><LRC>
```

Outgoing Record

The following table describes the Field Ids for outgoing interface records from SoftPay.

Field ID	Description	Data Type	Length	Req
CARD_ACCT_NUMBER_OUT (11001)	Card Account Number **NOTE:** If this field is used, the ECRI application will only send the last 4 and first 6 digits of the account number on to the ECR device.	Alphanumeric	<=19	N
CARD_EXPIRE_DATE_OUT (11002)	Card Expiration Date YYMM	Alphanumeric	4	N
TOTAL_AMOUNT (11003)	Total Transaction Amount	Numeric		N
APPROVAL_CODE (11004)	Authorization Code	Alphanumeric	<=6	N
DECLINE_CODE (11005)	Decline code **NOTE:** Decline codes are host specific	Alphanumeric	<=6	N
TRAN_CARD_TYPE (11006)	Transaction Card type 0=Credit Card 1=Debit Card 8=EBT Card 9=Purchase Card 10=Commercial Card 11=Fleet 12= Gift Card	Numeric		N
TRANSACTION_DATE (11007)	Transaction date	Alphanumeric	6	N
TRANSACTION_TIME (11008)	Transaction time	Alphanumeric	6	N
INVOICE_NUMBER (11009)	Invoice number generated by SoftPay	Numeric		
ERROR_CODE (11010)	Field used to provide error information from SoftPay. **EXAMPLE:** If the user manually cancels a requested action on the SoftPay terminal (-3) which is VS_ESCAPE, the information will be sent to the ECR in this field.	Numeric		N
RESPONSE_CODE (11011)	Numeric Code returned by the host.	Alphanumeric	3	N
DONATION_AMOUNT (11012)	Specific for Pet Smart. It is enabled when Donation prompt is enabled in SofTpay.	Numeric	12	N
CARD_ACCT_LAST4_OUT (11050)	Last 4 digits of account number	String	4	N

Field ID	Description	Data Type	Length	Req
ENTRY_INDICATOR_OUT (11051)	How the card data was entered 1 = Manual 2 = Swiped 3 = Chipped 4 = Contactless 5 = Beam 9 = Other	Char	1	N

NOTE The ECRI application will only send the truncated (last 4 and first 6 digits) of the account number to the ECR device. The track data is never passed to the ECRI application.

Communication Protocols Between ECR and ECRI (ECR Interface)

1. All messages will be framed beginning with an <STX>, ending with and <ETX> followed by a one byte LRC.
2. The application that receives a framed packet must respond with either an <ACK> or a <NAK> depending on whether the packet is properly formatted and has a valid LRC.
3. If the ECRI sends the Response packet to the ECR and receives a <NAK> then it will resend the Response packet.
4. If the ECRI receives a <NAK> for each of 3 attempted transmissions of the same Response packet then it will discard the Response packet and return to its Idle State. **WARNING:** If this Response packet represents a successful SoftPay transaction then SoftPay will be out of balance relative to the ECR.
5. If, after sending a Response packet, the ECRI does not receive an <ACK> or a <NAK> from the ECR within the #RECVTO specified timeout, then it will resend the Response packet up to 9 more times before giving up and discarding the Response packet. **WARNING:** When the application discards the Response packet then the Terminal will be out of balance with the ECR.
6. If the ECR application, after having sent a Transaction packet to the ECRI but prior to receiving its respective Response packet, is restarted for any reason, then the ECR application may receive what appears to be an unsolicited Response packet. This is because the ECRI application is unaware of the state of the ECR application and will continue to resend the Response packet up to 9 times or until the ECR application responds with either an <ACK> or a <NAK>. IE, the ECR is receiving the Response packet from the Transaction sent just prior to its interruption.
7. If the ECRI application has forwarded a Transaction packet to SoftPay then if, while it is waiting for SoftPay's Response packet, it should receive another Transaction packet from the ECR it will respond to the ECR with an Error 104.
8. The ECR can send a Reset Interface Transaction packet to force the ECRI application to stop waiting for a SoftPay Response and start receiving new Transactions from the ECR. **WARNING:** If this Reset is sent while SoftPay is still processing the previous transaction then the two applications (ECR & ECRI) will get out of sync.
9. After receiving a Response packet from SoftPay the ECRI application passes the response packet to the ECR device. If the ECRI application is aborted prior to the response being sent to the ECR device, the response is lost.

Transaction and Operation Flows

Sale, Offline Sale, Phone Order, Refund, and Void

ECR Initiation: These operations can be initiated on the ECR and sent to the terminal. For each of these transactions the ECR should send the appropriate Operation ID and Transaction ID values based on the respective host's Transaction/Operation Reference Table that is provided at the end of this document.

NOTE	The amount of data sent in the ECR request will affect the amount of prompt and response activity that will occur on the SoftPay terminal. Example: If the ECR has the capability to identify and send the Card type, it will eliminate the "Choose Card" prompt on the terminal.

NOTE	An Offline Sale response returns a data value of spaces for field id 11011.

Terminal Activity:

- Card swipe or manual entry of card data as well as the prompt and response activity will occur on the SoftPay terminal, followed by receipt print on the terminal.

Reset Interface – Operation ID 0

ECR Initiation: The Reset Interface operation can be initiated on the ECR. Although it resets ECRi, commands that are already sent to Softpay cannot be cancelled out.

Terminal Activity:

Terminal returns ACK

WARNING	A SoftPay response could be lost if the Reset operation is initiated on the ECR when there is a pending operation that was previously sent to SoftPay. In this case, initiating the Reset could cause the ECR and SoftPay to be out of sync. The User must assume responsibility to resolve this conflict.

Reprint

Terminal Activity:

Reprint is initiated and the prompt and response activity will occur only on the SoftPay terminal, followed by receipt reprint on the terminal. No ECR initiation is supported.

Abort/Cancel

Terminal Activity:

The User-cancelled operation must be initiated and performed on the SoftPay terminal. No ECR initiation is supported. A field will subsequently be sent to the ECR indicating that the user manually cancelled the action on the terminal.

Reports

Terminal Activity:

All report initiation and printing will occur on the SoftPay terminal. No ECR interaction occurs.

Settlement

Terminal Activity:

The Settlement operation must be initiated and performed on the SoftPay Terminal. No interaction with the ECR takes place.

Additional Information

Certain fields are exclusive, because the presence of that field will eliminate the need of another field. For example, when the ERROR_CODE field is present no other fields are sent.

Either the APPROVAL_CODE field or DECLINE_CODE field will be sent, but not both.

Error Codes

Certain fields are exclusive, because the presence of that field will eliminate the need of another field. For example, when the ERROR_CODE field is present no other fields are sent.

- 101 – User Canceled during SoftPay processing
- 102 – Formatting error in ECR's transaction packet
- 103 – Error occurred during SoftPay processing
- 104 – Interface rejects current transaction because it is still waiting for a SoftPay response to previous transaction.
- 105 – Not able to communicate with SoftPay application
- 106 – Format error.
- 444 – Payment Application (ie-SoftPay or SoftPay Connect) is not available or responding to the ECR request.
    - If the ECR receives this error code 444, the ECR should wait one second and then resend the request.

Config Variables

Several configuration variables can be set to modify the functionality of the ECR interface using specific parameter labels as identified below. The respective variables can either be set in the ECR interface application download, or they may be accessed through System Mode Edit, if user password access is allowed.

Config Label	Description	Values	Default
#BEEP	Enable/disable application interface beep when the following occur: - When a packet is received from the ECR - When a packet is sent to the ECR *NOTE: This parameter is intended for troubleshooting purposes and should not normally be enabled in a production application*.	0 = Off 1 = On	OFF
#RECVTO	ECR receive timeout, waiting for ECR to ACK the response packet, in milliseconds.	User Defined	1000 (1 second).
BAUD	The baud rate used to communicate with the ECR.	0=300 2=1200 3=2400 4=4800 5=9600	9600
COMPRT	The Comm port on the SoftPay terminal that will be used to connect to the ECR.	1 = COM1 2 = COM2	COM1

Transaction/Operation Reference Tables:

Paymentech SoftPay Payment Transactions

Trans Name	Operation ID	Trans ID	Trans Type Message ID
Sale	260	1	65613
Refund	262	16	65769
Offline Sale	261	12	65663
Phone Order	119	4	65775
Void	45	10	65648
Open Tab	4	2	65623
Close Tab	5	3	65626
Pre-Authorization	4	2	1918894468
Pre-Authorization Completion	5	3	1918894470
Authorization Only	1	9	65774

Paymentech SoftPay – Gift Transactions

Trans Name	Operation ID	Trans ID	Trans Type Message ID
Redemption	300	265	1918894087
Issuance	264	261	1918894085
Add Tip	267	0	1918894093
Prior Issuance	264	267	1918894089
Prior Redemption	300	268	1918894091
Activation	264	262	1918894209
Block Activation	264	264	1918894211
Prior Activation	264	263	1918894392
Deactivation	264	269	1918894213
Reactivation	264	270	1918894215

Application ID Information

The ECR Interface Application ID and version, along with COM port and baud rate, can be displayed by pressing the <7> key while at the VMAC Menu. Press the asterisk <*> key to return to the VMAC Menu.

Communication Ports – RS232 or USB

The ECR Interface Application ID and version, along with COM port and baud rate, can be displayed by pressing the <7> key while at the VMAC Menu. Press the asterisk <*> key to return to the VMAC Menu.

To set the communication mode (RS232 Serial or USB), the following parameters for the ECRi application must be set:

- COMPRT
  - Set to 2 for RS232 Serial
  - Set to 6 or for USB Connectivity (Refer to Cabling Configurations below)
  - Set to 7 for USB "Mini-B" Connectivity (Refer to Cabling Configurations below).

Note:

- On the PC, the Windows USB driver for USB port must be installed to communicate USB to the Pinpad

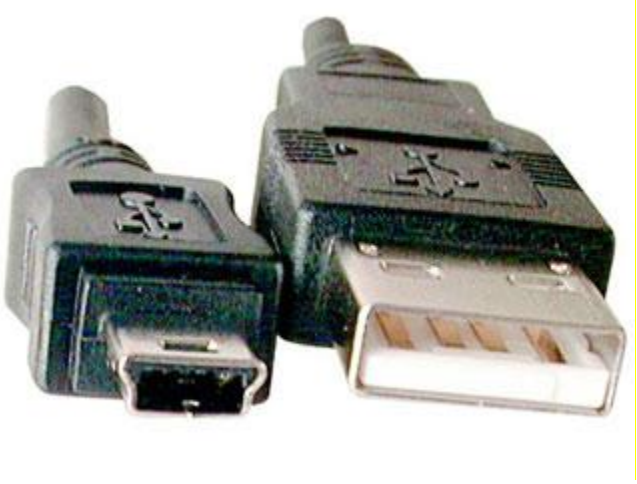
Cabling Configurations:

There are two available configurations:

- USB To USB
- USB To Serial

ECRi Port Connection – USB Mini Port (Vx520)

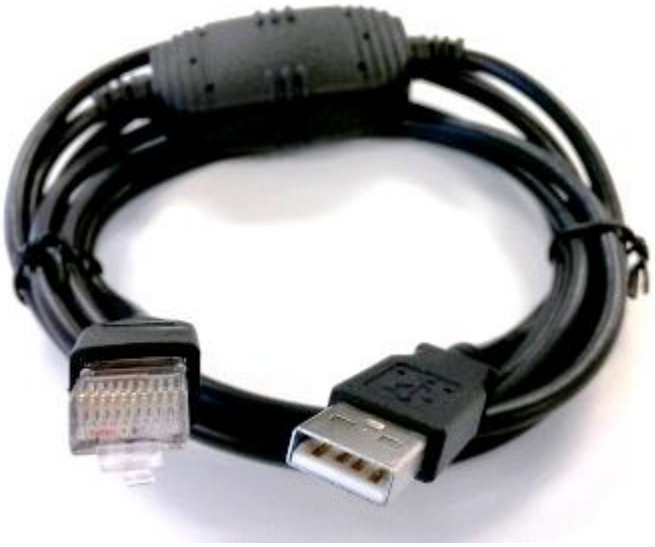
a. Cable USB "A" to USB "mini-B". There are several variants. This is the right one:



b. The cable is available in any electronics store
c. VeriFone USB-driver
d. Set COM-port to 7 in ECRi
e. "Mini-B" goes into VX520, USB goes into PC.
f. Terminal is shown as Serial port in PC. So the only difference for Cash register – is port number.

ECRi Port Connection – USB Standard (Vx810 Duet, Vx820 Duet)

a. Serial download cable PN 24805-XX-R USB to RS232



b. Set COM-port to 2 in ECRi
c. USB goes into Terminal and the RS232 connection to the PC.
d. No difference for Cash Register

ECRi Port Connection – RS232 (Vx810 Duet, Vx820 Duet)

a. Serial download cable PN 26264-01-R
b. Set COM-port to 2 in ECRi
c. RS232 connection goes into Terminal and the other end to the PC.
d. No difference for Cash Register

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