

## Enhancements & Resolutions

Version 1.4 Starts	
	Modified <b>ISB.START.CARDS</b> to allow for starting cards that were not "on" when the system was shut down. Added flags -A, -K, and -AK.
	Corrected <b>Level II</b> . The file was corrected from RESULT to HOLD.
	Added more on-line help
	Changed the way that batches are closed. It now uses a standard data entry screen format. You can enter "??" in the batch number field to see a list of batches not settled.
Version 1.5 Starts	
	Expanded the <b>CCV.CUST.ADDRESS</b> field to include NAME, COUNTRY & TELEPHONE. This only applies to the Paymentech NH format.
02/04/03	Added <b>hyperlinks</b> to this document in Section 2 - Definition of CCV record.
	Clarified the use of the variable <b>STORES</b> in section 6.5. This section defines how to close a batch through a subroutine call.
02/21/03	Added note in CCV.SOURCE about <b>Address Verification</b> - You must send E, M, N as source or the address does not go to Vital. Email was sent to all end users and VARs.
03/04/03	Made documentation change for <b>Amount</b> to clarify how returns are handled.
03/13/03	When a bad card number is entered in the TotalLink <b>Card Entry Screen</b> it now allows you to enter another card number.
03/14/03	Note that <b>Level III</b> is only available on Visa and Master Card. American Express has their own proprietary interface only available directly from them.
03/15/03	Added instructions for setting up <b>Universe Printers</b> . See section 11.
03/15/03	Clarified the use of <b>Flashed vs. non-Flashed</b> code in section 10.
03/19/03	Added section 6.11 on <b>Voice Authorizations</b> .
03/19/03	Added an explanation of <b>VERIFIED</b> in section 5. Table 1.
03/19/03	Added section 2.22 which is an explanation of field <b>CCV.PIN.PAD.TYPE</b> .
03/19/03	Added section 2.23 which is an explanation of field <b>CCV.CUST.ID</b> .
03/19/03	Added section 2.24 which is an explanation of field <b>CCV.PIN.BLOCK</b> .
03/19/03	Added section 2.25 which is an explanation of field <b>CCV.CASHBACK</b> .
03/19/03	Added section 2.26 which is an explanation of field <b>CCV.PRIVATE.DEBIT</b> .
03/19/03	Added section 2.27 which is an explanation of field <b>CCV.GUI</b> .
03/19/03	Added section 6.12 on <b>PIN Pad Debit Cards</b> .
03/25/03	Fixed the <b>Background processor</b> for running <b>reports</b> and process. This was not tested within the TotalLink environment.
03/26/03	Added xx for <b>CCV.CHECK.SERVICE</b>
03/26/03	Added xx for <b>CCV.CHECK.ACCOUNT</b>
03/28/03	Address info in Table 2 will work for testing purposes as well as 999 for <b>CID</b> .
04/15/03	Added <b>CCV.REQ.ID</b> to the instructions for Releasing a <b>Hold transaction</b> .
4/18/03	Changed wording in section 6.6. <b>Batch numbers</b> are incremented when a batch closing is started.
4/18/03	Added some clarification on <b>Address Verification</b> .
4/26/03	Modified the <b>Printer Mgt. Menu</b> option to recognize Universe SPOOLER.ADMIN. <a href="#">See section 11.1</a>
9/19/03	Add additional features for <b>Purchase Card</b> . <a href="#">See section 6.3</a> .
11/21/03	Gratuity also requires CCV.ACCOUNT
11/26/03	Fixed problem with Manual Authorization Entry not coming up.
Version 2.0 Starts	
5/22/04	Added more information on the format of Address Verification
8/3/04	Added ability to do an Authorization Only with zero amount. <a href="#">See section 2.10</a> .
8/3/04	Pass back the CID result and the Address check result through CCV.REC.
10/19/04	Added Encryption & Security. <a href="#">See section 6.15</a> .
2/3/05	Added error messages to table: D51, D52, D53, D54, D55, D56, D57, D58, D59. <a href="#">See section 7.1</a> .
2/10/05	Added Authorization Reversal. <a href="#">See section 6.9</a> .
6/7/05	Added CCV.MISC set to TRAINING mode. <a href="#">See section 2.28</a> .
7/6/05	Added ability to pass Mail Order number through CCV.MISC for Paymentech Salem. <a href="#">See section 2.28</a> .
7/14/05	Removed the recommendation that if you send the CCV.ADDRESS that you should send CCV.SOURCE as "N". ( <a href="#">Section 2.10</a> ) You may send the CCV.ADDRESS with any CCV.SOURCE.
9/28/05	Corrected the information on error [D14]. ( <a href="#">Section 7.1</a> )
10/5/05	Now will return error [D62] if it cannot read the ILS link specifications. ( <a href="#">Section 7.1</a> )
11/11/05	Clarified message "[D101] Process timed out." And added error message [D102] and [D103] ( <a href="#">Section 7.1</a> )

11/17/05	Added explanation for errors [D40], [D45], [D46], [D47], [D48], [D49], and [D55]. ( <a href="#">Section 7.1</a> )
11/30/05	Added explanation on how to disable the 60 second wait when calling the settlement routine. (Set the variable HOST.RESPONSE to "I".) (Section 6.7)
11/30/05	Added note on program to call for settlement if the name of the communications link id differs. For example, TL.CLOSE.BATCH.PAYMENTECH.ORBITAL instead of TL.CLOSE.BATCH.VISANET.D. (Sections 6.7)
07/12/06	Removed the "N" from the Cold-Start instructions. People using macros would end up with an N on line 1 and then an N later in the record.
08/09/06	Added instruction to pass the CID for e-commerce transactions. (Section 6.2)
10/24/06	Added LEVEL II information for Paymentech. (Section 6.3) Functionality was added to system Sept 2005.
12/20/07	Added error message [D104] for when a communication process times out. ( <a href="#">Section 7.1</a> )
11/20/08	Added CCV.HOLD.FLAG of RF. This will move a charge from hold and assign a batch to it regardless of the hold time limit in the control parameters. ( <a href="#">Section 2.11</a> )
12/29/08	Fixed spelling in error [017] "consistently" to "consistently". ( <a href="#">Section 7.1</a> )
12/29/08	Added CCV.HOLD.FLAG of RS. This will check to see if a timed out or rejected authorization went through and utilize the previous authorization. If the transaction did not go through it will authorize at this time. ( <a href="#">Section 2.11</a> )



## Integrator Guide

Use this guide to ensure a successful and worry-free implementation.

Version 2.0 • Revision 1  
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# Totalink Integrator Guide

To integrate Totalink into your software, you must do three steps. One, you must run the Install process, and two you must write a simple User Program which calls the credit card subroutine. Third you should add something to your cold-start to restart the modem processes in the event the system was shut down with the Totalink process turned on.

## 1. Install Process

To Install Totalink in another account:

- a. Log on to the Totalink account.
- b. Go to the Setup menu by choosing number 5.
- c. Next go to number 25, Install in Another Account.
- d. At the prompt, enter the account in which you wish to install.

This will catalog the Totalink programs and make file pointers in the target account and create an MD entry called TOTALINK. When this is called it will call the Totalink main menu.

## 2. User Program

Write the integration program following the pattern shown Section 4. In that example program, you must include every line in black. You can replace anything in red with appropriate variable names or comments.

## 3. Cold-start

The Cold-start process for Totalink is a program called ISB.START.CARDS in the file ISB.BP on the TOTALINK account.

The program ISB.START.CARDS will only start the process or processes that were 'ON' when the system was last shutdown. This means that the word 'ON' was written to the third attribute of TOTAL.MODEM.CONTROL, PROCESS.CONTROL. Each value in that attribute is a different process. You view these in the 'Start or Stop a Process' screen, which is menu option 1 in Totalink.

To start all processes regardless of their status (ON, OFF or blank) use the 'A' option preceded by a hyphen: "ISB.START.CARDS -A". To eliminate the 30 second wait for each process use the "K" option: 'ISB.START.CARDS -K'. (The 30 second wait ensures any card authorizations in process have time to finish.) To use both, put them both at the end of the "-" sign (i.e. ISB.START.CARDS -KA).

D<sup>3</sup> implementations:

### Method #1

To implement using a proc add the following to your user-coldstart:

```
HZ
STON
HTOTALINK<
HTOTALINK<
HISB.START.CARDS<
H<
H<
P
```

### Method #2

To implement as a macro, add the following to your user-coldstart:

```
Z]TOTALINK]TOTALINK]ISB.START.CARDS]]]
```

Note that the brackets are <ctl> bracket.

#### 4. Adding code to your program

\* You must write the equivalent of this program. The lines in black should remain; you may replace the lines in red. Further explanation of variables is provided after.

\*

\* Add this to the top portion of your program.

INCLUDE TOTAL.INC CCV.EQUATES

\*

\* If this is a credit card charge and you have the amount then

\* Insert this code immediately before calling our subroutine.

\*

MAT CCV.REC = "

VERIFIED = 0

CALL TL.TOTALINK(STORE, DATE, REG, TRANS, AMOUNT, VERIFIED, MAT CCV.REC)

!

IF VERIFIED THEN

\* Do whatever you would like with the data in the CCV record.

\* TL.TOTALINK has written everything we need into the files we use for settlement and reconciliation.

END ELSE

\* Do your rejection to the customer routine here

\* In non-eCommerce transactions the clerk/cashier will have seen and responded to an appropriate message.

END

\*

\* Get the next amount to be charged

RETURN; REPEAT; \* This will be an appropriate statement to get the next charge or to quit

## 5. Variable Definitions

TABLE 1

Variable Definitions: (You may use different names but they must follow these rules.)		
STORE	This identifies the store number and is used to verify which card types can be used. The card type is validated after each call to TL	Required
AMOUNT	Amount to be authorized. No decimals – two implied. (\$19.95 = 1995). Credits are a negative amount. (-1995).	Required
DATE	This is the date of the sale/return	Required
REG	This identifies the POS station or source device where the charge was originated. For internet sales use a number like 999.	Required
TRANS	This is the sequential number for this REGISTER. It may also be an invoice or ticket number. It must be a unique number.	Required
VERIFIED	<b>This is the ONLY flag that indicates an accepted charge.</b> The values returned by TL.TOTALINK is “1” if the charge is accepted.	Required

TABLE 2

Equated Variable Definitions			
Variable	Populated by	Sample Data	Section
CCV.ACCOUNT	TL.TOTALINK or USER	4012000010000	<a href="#">2.1</a>
CCV.EXP.DATE	TL.TOTALINK or USER	1202	<a href="#">2.1</a>
CCV.ACCOUNT.NAME	TL.TOTALINK	Jocelyn Smith	<a href="#">2.2</a>
CCV.AUTH.CODE	TL.TOTALINK or USER	12312321	<a href="#">2.3</a>
CCV.AUTH.REFERENCE	TL.TOTALINK	129992	<a href="#">2.4</a>
CCV.TENDER.DESC			<a href="#">2.5</a>
CCV.MSR.TYPE			<a href="#">2.6</a>
CCV.CARD.TYPE	TL.TOTALINK	V	<a href="#">2.7</a>
CCV.CARD.DESC	TL.TOTALINK	VISA	<a href="#">2.8</a>
CCV.TENDER.CODE	USER PROGRAM	CC	<a href="#">2.9</a>
CCV.SOURCE	USER PROGRAM	E	<a href="#">2.10</a>
CCV.HOLD.FLAG	USER PROGRAM		<a href="#">2.11</a>
CCV.RETURN.MESSAGES	TL.TOTALINK		<a href="#">2.12</a>
CCV.CUST.ADDRESS	TL.TOTALINK or USER	]8320 Meadow Ln]]Pleasant Grove, UT]85284	<a href="#">2.13</a>
CCV.CID	TL.TOTALINK or USER	999	<a href="#">2.14</a>
CCV.LEVEL.II	TL.TOTALINK or USER.PROGRAM	Operator/Cashier input	<a href="#">2.15</a>
CCV.LEVEL.III	USER.PROGRAM		<a href="#">2.16</a>
CCV.BOX.XY	USER.PROGRAM	4,14	<a href="#">2.17</a>
CCV.REQ.ID	TL.TOTALINK	1*12442*001*123322*1	<a href="#">2.18</a>
CCV.BATCH.NUMBER	TL.TOTALINK or USER		<a href="#">2.19</a>
CCV.GRATUITY.AMOUNT	TL.TOTALINK or USER	150	<a href="#">2.20</a>
CCV.PIN.PAD.TYPE			<a href="#">2.22</a>

### Explanation of CCV Variables in Table 2

***All items marked with “\*” are collected by TotalLink if you are not collecting the card data. Items marked with “+” are items that only the clearinghouse provides.***

#### 2.1 CCV.ACCOUNT and CCV.EXP.DATE \*

If your user program does not supply this data then TL.TOTALINK will prompt for it in our specialized window. If it is an eCommerce transaction, you must provide this data. If both the account number and expiration date are provided, TL.TOTALINK will not prompt for any more information, and will process the transaction. If either one is missing a window will pop up requesting the necessary information.

If you use your MSR routine then you must send the track1 information WITHOUT MODIFYING ANY DATA and TL.TOTALINK will process it appropriately. When sending track1 be sure to send the “B” or “%B” prefix.



Track2 data may also be sent, it is delimited from track1 by a semi-colon (;).

## 2.2 CCV.ACCOUNT.NAME (\*when swiped)

The card swiping routine on TL.TOTALINK populates this field with the name imbedded on the magstripe of the credit card.

## 2.3 CCV.AUTH.CODE +

This is the Authorization code that the clearinghouse provides IF the card is authorized.

## 2.4 CCV.AUTH.REFERENCE +

This is the reference code provided by the clearinghouse IF the card is authorized. It is used for reconciliation on disputed charges.

## 2.5 CCV.TENDER.DESCRPTION

Leave blank - not used.

## 2.6 CCV.MSR.TYPE

Leave blank - not used.

## 2.7 CCV.CARD.TYPE \*

This is populated by TL.TOTALINK. Card types are setup in TOTALINK in the setup menu, under Acceptable Card Types. This is the type of card that was authorized. The abbreviations that are used are:

- V = VISA
- M = MasterCard
- A = American Express
- D = Discover
- DC = Diners Club
- CB = Cart Blanch
- JCB = Japan Clearing Bank

## 2.8 CCV.CARD.DESC \*

This contains the card type description that corresponds to the card type. See 2.6 above. This is used in receipt printing.

## 2.9 CCV.TENDER.CODE

If you do not populate this field with a specific tender code then we will use the default code of **CC**. Tender codes are maintained in the Setup Menu under Tender Codes. The tender code is how you identify which protocol we are formatting to.

## 2.10 CCV.SOURCE

Use **E** for eCommerce, **M** for Mail-Order/Telephone Order, **N** for Card not Present, **P** or blank for POS/Retail, **A** for Card Authorization only or Address Check, and **V** for Void.

**E-Commerce:** You must provide CCV.ACCOUNT, CCV.EXP.DATE. It is recommended that you provide CCV.CUST.ADDRESS and CCV.ID for a better rate. If a charge is rejected then any error messages that would have gone to the screen will be returned in the CCV.RETURN.MESSAGES, instead of displaying them.

**Mail-Order/Telephone-Order:** Same as e-Commerce.

**Card Not Present:** It is recommended that you provide CCV.CUST.ADDRESS.

**POS/Retail:** If the account number and expiration date are hand entered it is recommended to provide the CCV.CID.

**Card Authorization Only and Address Check:** See section [2.21](#).

**Void:** You must pass the original STORE, DATE, REG, and TRANS and CCV.ACCOUNT values of the original transaction. You may optionally pass the CCV.REQ.ID value of the original transaction. You must also pass the amount you wish remove from the original. See the section on [Voids](#) for more information.

## 2.11 CCV.HOLD.FLAG

Normally this flag would be left null.

**H**=Authorize but Do Not Settle, **R**=Release Hold for settlement. An 'H' here will authorize the amount, but not settle until the same transaction is sent with the 'R' flag. When the release flag is sent you must also send the same store, date, reg, trans, CCV.REQ.ID, and account number as the original transaction. The amount may be the same as or less than the authorized amount, but not greater than the authorized amount.

Contact your merchant services (bank) to find the maximum number of days the funds can be held. This number should be entered in the Link Specification screen in the Setup Menu. This number can vary among card types and issuing banks, a default of 7 days is initially used.

**RF**=Release the Hold for settlement and ignore the maximum number of days that the funds can be held.

**RS**=This flag can be sent to see if a transaction which had previously timed out or been rejected was actually authorized. If the card had not been charged, it will authorize the charge at this time. If the charge had been charged it will return authorization data and it will be put into the TotalLink system as a valid transaction. **(Currently Paymentech only.)**

## 2.12 CCV.RETURN.MESSAGES \*

If you pass anything in CCV.RETURN.MESSAGES (or if CVV.SOURCE is set to 'E' for eCommerce) then we will return any error messages that would normally be sent to the screen into a multi-valued list. See the list of error messages in [Table 7.1](#). This requires that you provide the account number and expiration date.

## 2.13 CCV.CUST.ADDRESS \*

If the card is not present, then you should provide the billing address for a better rate and identification. Some clearing houses only require the ZIP code for AVS-Qualified rates. Check with yours prior to making any assumptions.

If there is magstripe data present in the Account field we will not do address verification.

The format of the post office box should be "P.O. BOX 12345" in which the periods after "P" and "O" should be present.

### 2.13.1 Paymentech

CCV.CUST.ADDRESS<1,1> = NAME (First Name Initial "\*"Last Name (i.e. JOSEPH M. \*BAGADONUTS)

CCV.CUST.ADDRESS<1,2> = ADDR1

CCV.CUST.ADDRESS<1,3> = ADDR2

CCV.CUST.ADDRESS<1,4> = CITY, STATE

CCV.CUST.ADDRESS<1,5> = ZIP

CCV.CUST.ADDRESS<1,6> = COUNTRY (US is default)

US = United States

CA = Canada

GB = Great Britain

CCV.CUST.ADDRESS<1,7> = PHONE (AAEEENNNNXXXX)

AAA = Area Code

EEE = Exchange

NNNN = Number

XXXX = Extension

### 2.13.2 Vital

On the Vital network only the street address and the zip code are required. The format is:

CCV.CUST.ADDRESS<1,2> = <street address><apt no.>

CCV.CUST.ADDRESS<1,5> = <zip code>  
or  
CCV.CUST.ADDRESS<1,2> = <post office box number>  
CCV.CUST.ADDRESS<1,5> = <zip code>

#### **2.14 CCV.CID \***

This is a three or four digit number that is found on the back of the card. On Visa it is called CVV2, on MasterCard it is CVC2, on American Express it is CID. Other cards types do not have this feature. Provide this for a better rate if the card is manually entered and the card is presented to your cashier. (Rates are always determined by your merchant agreement with your merchant services provider.) **Do not store this number in your database.**

A result of "Y" will come back in the CCV.CID if the CID matches. An "N" will come back if it does not.

#### **2.15 CCV.LEVEL.II \***

If the card or account number being presented is a Commercial Card (sometimes referred to as a Purchasing Card) then a better bank rate can be obtained by entering the customer's commercial information. This is usually something like a PO number or a License Plate number or something else that identifies the purchaser. TotaLink will return a "Y" in this field if you need to prompt for the information. You will then have to write the customer information to the **HOLD** file. This is defined below.

This field is optional. If the user is prompted for input they can enter a single character to satisfy the required entry prompt. We will ignore any 1-character data.

#### **2.16 CCV.LEVEL.III**

This is nearly the same as Level II except that when there is a "Y" in the field you will need to populate the invoice detail attributes. This is a near-future enhancement and will be documented later. You cannot have both Level II and Level III - they are mutually exclusive.

#### **2.17 CCV.BOX.XY \***

You may specify the upper left corner of the screen where our input box should appear. The box is 36 columns wide and 8 rows high. The default position of the upper left hand corner is 20, 10.

#### **2.18 CCV.REQ.ID \***

The key to the detail files is store\*date\*register\*transaction\*sequence. This key is passed to you if you want to store it in your database or if you need to access it for Level II or Level III purposes.

#### **2.19 CCV.BATCH.NUMBER**

The batch number for a verified charged is returned in this field.

You may pre-populate the field with "R" if you want to cause the batch number to be incremented. This may be helpful if you want to keep credit card batches and your batch data synchronized. Do not send card information when sending the "R" since this option will only increment the batch number.

#### **2.20 CCV.GRATUITY.AMOUNT**

Pass the amount of any gratuity. If an amount is passed with the first request for an authorization then this amount will be added to the AMOUNT to be authorized, otherwise we will automatically authorize an amount 20% greater than the AMOUNT passed.

#### **2.21 AVS - ADDRESS VERIFICATION & Card Validation**

This verifies that the card number and CID are good and/or the address is valid.

To do CARD verification do the following:

1. Pass the account number and expiration date.
2. In CCV.SOURCE pass the letter A. (See section [2.10](#).)
3. Pass an amount of zero only.
4. Pass the CID in CCV.CID. (See section [2.14](#); **Do not store this data in your database.**)

To do Address Verification:

5. Pass the address information as specified in section [2:13](#)

You may do either 4 or 5; or you may do both 4 and 5.

## 2.22 CCV.PIN.PAD.TYPE

If you are doing a Debit Card transaction with a PIN then the PIN Pad type will be returned here. Currently we support only VeriFone V1000 and V2000. It is not required for you to pass anything in this field, but the PIN Pad type should be on the Tender Code, which you would pass for all Debit transactions of this type.

## 2.23 CCV.CUST.ID

Any data that you wish to show up on the TOTAL.CC.RESULT (and TOTAL.CC.HOLD) record should be sent through CCV.CUST.ID. It gets put on the CUST.ID field, which is attribute 70 of this record.

## 2.24 CCV.PIN.BLOCK

If you are doing a debit card transaction, then you would pass the DUKPT PIN Block here. Refer to the Debit Card section for all of the details in running debit cards.

## 2.25 CCV.CASHBACK

If you are doing a debit card transaction, and are giving cash back to the customer, then you must enter that amount here. Note that the cash back must be included in CCV.AMOUNT before calling TL.TOTALINK. If the transaction comes to \$10.00, and they want cash back of \$5.00 then the total transaction is \$15.00. The AMOUNT would be 1500 and the CCV.CASHBACK would be 500. Refer to the Debit Card section for additional details of running debit cards.

## 2.26 CCV.PRIVATE.DEBIT

This is reserved for customers who are doing an in-house or proprietary debit card interface. Here you pass the name of that interface. Additional details can be obtained by contacting Total Computing Solutions, LLC.

## 2.27 CCV.GUI

This is reserved for use by TCS only.

## 2.28 CCV.MISC

If this holds as one of its values 'TRAINING' then it will set the amount to zero and return the error message "[D21] No Verification." It will still pull up a window to input the credit card and related information if the passed parameters are set to do so.

Paymentech Orbital Gateway:

MailOrderNum – If it holds as one of its values 'MailOrderNum=xxxxxxx' (*xxxxxxx is the value of the order number, up to 9 bytes*) this is used for Paymentech Salem platform (on the Orbital gateway) if the transaction is mail order or a recurring transaction.

SDMerchantName – If it holds as one of its values 'SDMerchantName=xxx' (*xxx is the Merchant name.*) This is known as the soft descriptor, and will show up on the card holder's statement, overriding the merchant name that you setup with Paymentech. Paymentech enforces a limit of 12 bytes on this field. Totalink will truncate anything beyond this limit.

SDProductDescription – If it holds as one of its values 'SDProductDescription=xxx' (*xxx is the product description.*) This is the soft descriptor for the product and will show up on the card holder's statement. Paymentech enforces a limit of 18 characters on this field.

Note: if the SDMerchantName is 3 bytes or less then you are allowed a SDProductDescription of up to 18 bytes.  
 If the SDMerchantName is 7 bytes or less then you are allowed a SDProductDescription of up to 14 bytes.  
 If the SDMerchantName is 12 bytes or less then you are allowed a SDProductDescription of up to 9 bytes.  
 TotalLink will truncate anything beyond the enforced limits.

SDMerchantPhone / SDMerchantEmail / SDMerchantURL – You are allowed to send one of these fields, It will show up on the cardholders statement.

SDMerchantPhone=xxx-xxx-xxx (xxx-xxx-xxxx is the merchant's phone number, 12 bytes including dashes.)

SDMerchantEmail=xxxx@xyz.com(There is a 13 byte limit)

SDMerchantURL=yourURL.com(There is a 13 byte limit)

If you send more than one of these fields, then TotalLink will just pick one of them to send. If you do not send it then the default that you have setup with Paymentech will be sent.

## 6. Beyond the Basics

The most basic and common interface is the simple set of code described in section 4. Following are ways to use the system to match your particular situation.

### 6.1 Using your own card swipe or data entry routine

- A) Pass all of Track1 and if possible Track2 in CCV.ACCOUNT. If Track1 is corrupted we will pick the account information from Track2. Use the semi-colon (;) as the delimiter between the tracks or put Track1 in MV1 and Track2 in MV2. If you are providing Track data then do not send CCV.EXP.DATE.
- B) If you don't have Track1 or Track2 then place the full account number in CCV.ACCOUNT and the expiration date in CCV.EXP.DATE. The format for the expiration date is MMY. We will check the date and make sure that it has not expired. We will also validate the card number before attempting to clear the transaction.
- C) If you place any value in CCV.RETURN.MESSAGES then we will suppress the output of all operator messages and return back in CCV.RETURN.MESSAGES. (Progress messages, i.e. Dialing, Connecting, will not be returned.)

### 6.2 E-Commerce Transactions

- A) Prompt for the following:
  - 1) Card Number (CCV.ACCOUNT)
  - 2) Expiration Date (CCV.EXP.DATE)
  - 3) Billing Address (CCV.CUST.ADDRESS)  
An incorrect address will not stop the charge from being accepted – it will impact your bank discount.
  - 4) Card ID (CCV.CID)
  - 5) Set CCV.SOURCE to E  
This will suppress any “operator” messages. They will be returned in the variable CCV.RETURN.MESSAGES.
- B) If the VERIFIED flag comes back as “0” you will need to parse CCV.RETURN.MESSAGES and decide what your action will be.

### 6.3 Using Commercial Cards/Purchase Cards Level II Reporting

#### Vital

If the customer card is a commercial card as indicated by a returned value of “Y” in the CCV.LEVEL.II field we will prompt the operator for cardholder input. Using Level II may get you a better discount rate with some acquirers.

If you have suppressed operator messaging then you will need to prompt for the customer information. You will also need to write the response to amc74 of the TOTAL.CC.HOLD.FILE. Use code similar to the following:

WRITEV RESPONSE ON CC.HOLD.FILE, CCV.REQ.ID, 74

#### Data format

DATA	Value	Format	Req/Optional
------	-------	--------	--------------

RESPONSE<1,1>	Special Code supplied by cardholder, or Purchase Order Number supplied by cardholder, or Your Invoice Number	17 or fewer characters	Optional
RESPONSE<1,2>	1=Tax Amount 2=Tax Exempt	1 2	Optional Optional
RESPONSE<1,3>	Tax amount	12 or fewer characters (no decimals)	Required if <1,2>=1 Optional otherwise

WRITEV RESPONSE ON CC.HOLD.FILE, CCV.REQ.ID, 74

For those using the Visanet protocol, please note that the maximum length of the field is 17 characters. See [2.18 CCV.REQ.ID \\*](#) for additional help.

You must choose if you are using Level II in the Link Specification setup screen.

### Paymentech Orbital Gateway

If you are using the Paymentech Orbital Gateway then Level II processing is a little different. You must pass the information in the variable CCV.LEVEL.II to TL.TOTALINK. Each element of the level II information should be separated by value marks in CCV.LEVEL.II. The following represents the standard data to be included:

Field	Length Limit
PO.NUM=yyyyyyyy	17
TAX=xxxxxxx	12
DEST.ZIP=12345	9

Note that you must literally provide the exact label followed by an equals sign followed by the data. yyyyyyy represents the purchase order number, xxxxxxx represents the tax amount with decimals implied, and 12345 represents the zip code.

The equals sign "=" must be present. For example look at the following code example:

CCV.LEVEL.II<1,-1> = 'PO.NUM=12345GF'

CCV.LEVEL.II<1,-1> = 'TAX=1250'

CCV.LEVEL.II<1,-1> = 'DEST.ZIP=54005'

In this case, the purchase order to be sent is "12345GF", the tax is \$12.50 and the zip code is 54005. Literal values are used in the above example, a more realistic scenario for the purchase order might be:

CCV.LEVEL.II<1,-1> = 'PO.NUM=:LEVEL.II.PONUM

And so forth for the remaining values.

Totalink will truncate anything beyond the length limits. If the PO.NUM is not supplied, Totalink will not attempt to pass any level II information.

If the TAX amount is not passed, then this will be zero filled and marked as not provided.

If the DEST.ZIP is not passed, then it will automatically try to use the AVS zip code passed in CCV.CUST.ADDRESS. The zip code can also be passed with the 4-digit extension; there should be no delimiter as follows:

DEST.ZIP=123456789

American Express has some additional requirements:

Field	Length Limit
DEST.NAME=BOB JONES	30
DEST.ADDR1=1234 N ANYWHERE ST 30	
DEST.ADDR2=STE 134	30
DEST.CITY=ANYWHEREVILLE	20
DEST.STATE=NY	2
AMEX.TAA1=1111111111	40
AMEX.TAA2=2222222222	40
AMEX.TAA3=3333333333	40
AMEX.TAA4=4444444444	40

These should be coded similarly with the exact name shown followed by an equals sign followed by the value and separated by value marks in CCV.LEVEL.II.

For example:

CCV.LEVEL.II<1,-1> = 'DEST.NAME=:CUST.NAME

Where CUST.NAME would be the variable containing the customers name, and so forth for the remaining required values.

If any of the address elements are not provided on an American Express transaction, then it will automatically use the information passed for AVS in CCV.CUST.ADDRESS.

The fields AMEX.TAA1, AMEX.TAA2, AMEXTAA3, and AMEXTAA4 are also known by the Amex 4X40 or Transaction Advice Addendum. Please contact an American Express or Paymentech representative for more clarification on the purpose of this field.

## 6.4 Using Commercial/Purchase Card Level III Reporting

If the customer card is a commercial card flagged with a "Y" in CCV.LEVEL.III then you will need to provide the Level III information. We will not prompt the operator for this information it is best obtained from your database since it is the invoice detail for the charge.

This feature is being developed and will be available soon.

## 6.5 Adding Speed Dial

Speed Dialing is simply initiating a connection to the host before transaction is complete. Speed Dialing can happen as soon as there is significant assurance that the transaction will be a credit card charge.

Speed dialing happens automatically when you call TL.TOTALINK. If you feel that you can improve the effect of speed dialing without causing "dead" dials then add the following subroutine call anywhere in your code.

CALL TL.SPEED.DIAL(STORE, AMOUNT, PROTOCOL)

STORE and PROTOCOL must match what is in your Link Specification setup. Store is usually the number 1. Protocol might be "VISANET.D". The protocol can be read from amc2 of the tender file using the tender code as the key.

## 6.6 Creating Your Own Reports

You should never have to create your own reports. If you feel that there is something that would be beneficial to you as well as others please let us know. Sometimes VARs will want to use their own report front end and output processing; in that event you may want to create your own reports. Do benefit from the work we've already done do a FIND or SEARCH on the TOTAL.PL file for the words SORT or LIST. Nearly all of our reports come out of the TOTAL.CC.RESULT and TOTAL.CC.ADJ files. From any menu or from TCL in the TOTALINK account do a simple list (LIST TOTAL.CC.RESULT) to see the attribute definitions.

**Do not modify any dictionary items!** Any changes you make to our dictionary items will be overlaid on your next upgrade and your modifications will disappear. If you want to make a change then create a new dictionary item and name it something unique. For example you can copy REG to REG.UCONN. Avoid using the minus (-) sign and asterisk (\*) as these will be incompatible with any future port to SQL.

## 6.7 Calling the Batch Settlement Program From Your Own Menu

You can call the batch settlement program from your own process. Do the following call:

CALL TL.CLOSE.BATCH.VISANET.D(MERCHANT.ID, START.TIME, BATCHES, HOST.RESPONSE, VERIFIED, ERROR.ID, STORES)  
Substitute for "VISANET.D" if your communications link id differs. For example, call TL.CLOSE.BATCH.PAYMENTECH.ORBITAL if your communications link id is "PAYMENTECH.ORBITAL".

The program normally waits 60 seconds to begin settlement in case there are transactions pending approval to be submitted with this batch. Set HOST.RESPONSE to "I" to disable this wait.

**MERCHANT.ID** - Pass the merchant ID that you want to close the batch for. Leave this blank to include all merchant ids.

**START.TIME** - Leave blank to start immediately or pass the internal pick time to start.

**BATCHES** - Leave blank to process all batches or pass a multivalued list of batches to close.

**HOST.REPSONSE** – Set to null prior to calling the program. The message from the clearinghouse is returned in this variable. Set this variable to “1” when calling the program to disable the 60 second wait to begin settlement.

**VERIFIED** – Set to null or zero prior to calling the program. A “1” or “0” will be returned.

**ERROR.ID** – REQ.ID – Key to TOTAL.CC.HOLD & TOTAL.CC.RESULT of the record that is PROBABLY causing the batch to be rejected.

**STORES** – You should leave this blank. It will come back with a store number associated with each batch settled in a multivalued array.

**Note:** If you specify more than one batch, or blank for all batches, then the variables BATCHES, HOST.RESPONSE, ERROR.ID, STORES and VERIFIED will be returned in multivalued format with a VERIFIED and a HOST.RESPONSE for each batch.

**Batches are normally closed from the Main Menu #2 – Close Batch.**

### 6.8 Incrementing the Batch Number

If you need to keep your data synchronized with the credit card batch number then at any specified time you can call TL.TOTALINK with an “R” in CCV.BATCH.NUMBER. The variable VERIFIED is returned with a “1” if the process was successful and the new batch number is passed in CCV.BATCH.NUMBER. This will cause the batch number to be incremented.

Be aware that if there are transactions in the request queue to be processed they will get the new batch number. Any transactions that have been sent to the host and are pending authorization will have the old batch number. If you send the “R” and want to close the previous batch then have your program sleep for at least 1 minute prior to calling the close batch routine.

**Batches are automatically incremented when a batch is closing is attempted or after midnight if the auto rollover flag is specified in the link specification menu – Setup>Link Specifications.**

### 6.9 Voids and Authorization Reversals

CCV.SOURCE	Auth Reversal Setup	Auth Reversal Successful	Amount compared to original	Item Removed from Batch	VERIFIED	Amount Changed
V or VO	Y	Y	Equal	Y	1	N/A
V or VO	Y	Y	Less Than	N	1	Y
V or VO	N	N/A	Equal	Y	1	N/A
V or VO	N	N/A	Less Than	N	1	Y
V	Y	N	Equal	Y	1	N/A
V	Y	N	Less Than	N	1	Y
VO	Y	N	Equal	N	0	N/A
VO	Y	N	Less Than	N	0	N

There are two flags you can send:

CCV.SOURCE = “V” - Authorization reversal if available. Will always remove from batch regardless if authorization reversal was successful.

CCV.SOURCE = “VO” – Authorization reversal if available. If authorization reversal was not successful, then DO NOT remove from batch. If authorization reversal not available on this card type, then remove from batch.

You must also pass the exact information that was passed to acquire the authorization. The essential data includes STORE, DATE, REGISTER, TRANSACTION, and the CCV.ACCOUNT.NUMBER. These must match a record in the TOTAL.CC.HOLD (settlement) file. You must also send AMOUNT equal to or less than the original amount.

VERIFIED = 1 if the item was removed from batch or if amount changed. VERIFIED = 0 if the item was not removed from the batch or the amount was not changed.

#### Authorization Reversal:

In order to do authorization reversal the following factors must be in place:

- Your protocol (Vital, Global Payments, etc.) must support it
- It must be supported for your industry type (currently not supported on Retail/Restaurant.)
- It must be supported for your card type (currently Visa only.)



- It must be setup in Totalink for your store in **Acceptable Card Types** (menu Setup>Acceptable Card Types) for each card type.

If it is setup in Acceptable Card Types then Totalink will automatically attempt a reversal on either a "V" or a "VO" flag. "V" will remove the item from the batch or change the amount regardless of the outcome of the reversal, "VO" will ONLY remove item from the batch or change the amount if the authorization reversal was successful.

If authorization reversal is not supported for your industry type, card type or just not setup then both a "V" and "VO" will simply remove the item from the batch OR subtract the amount passed from the original transaction.

*This process is also accomplished through the menu Adjustments> Inquire/Void/Gratuity*

### **6.10 How To Verify That A Card Number is Accurate**

You can validate the format of a card number by calling TL.VERIFY.CREDIT.CARD(ACCOUNT, VERIFIED, TYPE, ERROR.MSG). Set VERIFIED, TYPE and ERROR.MSG to null prior to calling. If VERIFIED is returned with a value of "1" then appropriate card type will be returned. If VERIFIED is "0" then the ERROR.MSG will inform you why it failed.

### **6.11 What to do differently for Restaurants**

If you will always know the gratuity amount prior to authorization then you should just submit a request for the total amount and do nothing special for gratuity. The restaurant flag "F" in the merchant setup only has meaning if you submit gratuities after the original authorization.

When you are going to collect tips/gratuities after the original authorization you will need to first flag the merchant settings as "F" for restaurant/gratuity. Gratuity amounts can be added any time prior to settlement. You can correct any gratuity errors by resubmitting the correct gratuity amount (don't do the math, we've got it covered.)

If the restaurant flag is set then we will automatically authorize the transaction for 20% more than the AMOUNT that you submit. If you don't want 20% added then put a zero in the CCV.GRATUITY.AMOUNT field. If you have the gratuity amount when you submit an authorization request then pass the amount. Both of these options imply that you will not be submitting any additional gratuity amount or adjustments.

When you are ready to pass the gratuity amount you will call TL.TOTALINK the same as before except you must pass the original STORE, DATE, REGISTER, TRANSACTION, AMOUNT CCV.ACCOUNT and you must pass the CCV.REQ.ID that was returned to your calling program with the original authorization. This applies for corrections also.

In summary pass: STORE, DATE, REGISTER, TRANSACTION, AMOUNT; CCV.ACCOUNT, CCV.GRATUITY.AMOUNT and CCV.REQ.ID.

**DO NOT SETTLE BATCHES UNTIL YOU HAVE SUBMITTED YOUR GRATUITY AMOUNTS.**

### **6.12 Preparation for SSL**

There are no flags or settings unique to the SSL interface. This is all taken care of in the setup and is identical to the setup of a Phantom process; where you entered a "P" for Phantom you now enter "I" for Internet.

What you need to prepare for is:

- a) File path where we install our Post utility. This requires "execute" privileges.
- b) File path where we write and read the data to be posted on the Internet. This requires read/write privileges.
- c) OpenSSL must be installed on all platforms.
- d) CURL must be installed on all Linux platforms.

### **6.13 How to do Voice Authorizations**

If you have obtained a Voice Authorization number send that code through CCV.AUTH.CODE. It will not do another authorization, but will be put directly into the TOTAL.CC.HOLD file for settlement in the current batch.

## 6.14 PIN Pad Debit Cards

If you wish to do PIN Pad debit cards please note that TCS only supports two types of PIN pads, the VeriFone V1000 and V2000. TCS also only uses the DUKPT encryption routine. There are two different scenarios that we must separate. 1) Our software does the prompt for PIN entry. 2) Your software does the prompt for PIN entry, and passes that to us. In both scenarios you must have a Tender Code setup. In our menu, go to 5. Setup and then 3. Tender Codes. You must enter a PIN Pad for this Tender, and only use this Tender for debit transactions. Here is more detail on the two scenarios:

- 1) Our software prompts for PIN entry.  
You simply need to pass the Tender Code in CCV.TENDER.CODE. In addition to the AMOUNT, you may also specify a cash back amount. This can be passed in CCV.CASHBACK. If you wish our software to prompt for it, leave CCV.CASHBACK blank. If you do not wish for us to prompt for a CCV.CASHBACK amount, put it as zero. There is also additional hardware and terminal setup that must be done in order to use PIN pads.
- 2) Your software prompts for PIN entry.  
In this case, you must pass the PIN block in CCV.PIN.BLOCK. You will have to obtain programming information for the PIN pad from the manufacturer of the device. The encryption method must be DUKPT. Please handle cash back the same way as is described in scenario 1. Also you must pass Track 2 from the magnetic stripe of the card. You may send both track 1 and track2 exactly as they come off the card, but if only track 2 is sent, then the first character must be a semicolon (;).

## 6.15 Encryption and Security

Starting with release 2.0, the credit card numbers are now encrypted when written to files. However the full unencrypted card number is still returned to your program through CCV.ACCOUNT. It is expected that if you store that number, it will be encrypted by you according to the standards required by your merchant services provider. This usually means you must encrypt it if you are storing it to your database. **Note that it is also against merchant regulations to store the magnetic stripe of the card.**

If you need to retrieve the card number from the TOTAL.CC.RESULT record, it is stored on attribute 3 in encrypted form. You may decrypt it by calling TL.CARD.ENCRYPT. Call it in the following form:

**CALL TL.CARD.ENCRYPT(INVAL,OUTVAL,ENC.MODE,PASS,ERROR.MSG)**

Arguments explained:

INVAL: The data you wish to encrypt/decrypt.

OUTVAL: The resulting encrypted/decrypted data is passed back here.

ENC.MODE: 0 = decrypt, 1 = encrypt

PASS: The encryption key. You are responsible for maintaining the security of this value. \*

ERROR.MSG: Errors passed back here. ERROR.MSG = " implies success.

You must obtain the default encryption key from Total Computing Solutions, LLC.

Note that you can call this routine to encrypt/decrypt any data of your choosing using any key you wish. Currently TotalLink uses the DES3 encryption algorithm found in OpenSSL. It is required that you install OpenSSL on your machine.

During setup you must specify:

- a) The path OpenSSL is installed.
- b) A temporary path to store encrypted/decrypted data.

\* Go to [http://usa.visa.com/merchants/risk\\_management/cisp.html](http://usa.visa.com/merchants/risk_management/cisp.html) for a complete explanation of this requirement.

## 7. Return Messages

If the CCV.SOURCE is set to "E" for e-Commerce or if you pass anything in CCV.RETURN.MESSAGES then we will never prompt the operator for input. Any messages that would have gone to the operator (other than progress messages) will be returned in a multivalued array in CCV.RETURN.MESSAGES. If you sent the flag "suppress" when you called TL.TOTALINK the flag is deleted and only our messages are returned.

Below is a table of messages generated from the program. Additional status messages are found in the file TOTAL.ERRMSG and are preceded by a 3 digit number in square brackets, i.e. '[002] Unable to Dial. Modem Error.' Relevant messages from this file are put in attribute 1 of the file TOTAL.CC.RESULT, and are delimited by a multi-value mark.

### 7.1 Table of Messages

Error Types:

Type	Description
M	Modem or Communications Error
C	Customer Card Error
S	Setup or System Error
I	Information or User Prompt
P	Prompt for User input

Error Message	Type	Explanation
[D01] Account Number:	P	Only used when the CCV.HOLD.FLAG is set to 'R', meaning that you are releasing a transaction that you previously put on 'HOLD'. Asking for account number of the held transaction.
[D02] Sequence Number:	P	Only used when the CCV.HOLD.FLAG is set to 'R', meaning that you are releasing a transaction that you previously put on 'HOLD'. Asking for the sequence number of the transaction, the number after the last asterisk (*) in the REQ.ID
[D03] Charge Authorized	I	Only used when the CCV.HOLD.FLAG is set to 'R', meaning that you are releasing a transaction that you previously put on 'HOLD'. Means that Charge was flagged for settlement in the current batch.
[D04] Zero is not a valid Amount - to test Comm Link use A/C "0227"	I	Occurs when the amount is given as zero. Account number '0227' can be used to test whether the modem is dialing. You will receive a reject message from this card number.
[D05] This type of credit card (':CCV.CARD.TYPE:') is not accepted by this store.	S	Means that the card type is not setup on TotalLink as a card accepted by your store.
[D06] This is the last 3 or 4 digits on the back of the card	I	Explains what the Card ID is. (CVV2 for Visa, CVC2 for MasterCard, CID for American Express)
[D07] Credit cards not set up! (See TOTALINK main menu: 5,24)	S	Means that credit cards are not setup for your store.
[D08] Invalid expiration date!	C	Displayed on a manually entered expiration date. Means the expiration date was not in the MMY format.
[D09] Card is Expired - Use another Tender	C	TotalLink did not send the Authorization, because the card was expired.
[D10] A charge for this transaction, card # and amount already exists!	I	A charge was already processed for this store, date, register, transaction number, account number, and amount. Thus it is likely a duplicate transaction.
[D11] Please Wait - Processing Request	I	Displayed briefly at the beginning of the authorization attempt.
[D12] (Number of seconds processed) - (Latest Status)	I	While processing, gives the latest status of the authorization attempt.
[D13] The Host system is not available and this charge was probably received by the bank. If you charge this card again you may have to enter an adjustment for the customer - see your supervisor	M	We received all or part of the authorization string but an error occurred.
[D14] ICOMM failed to write out result! - Please try again.	S	Failure of the background process to write the result of the authorization attempt.
[D15] Modem Process is not working.	M	Could not communicate to the port, either because of a setup problem or not being able to attach to the port.
[D16] Rejected (Rejection message from clearinghouse)	C	Credit card not authorized, reason specified by message from clearinghouse.
[D17] Enter the Manual Authorization Password:	P	A password is required when doing a manual authorization.
[D18] Invalid Password!	I	This displays if the manual authorization password entered was incorrect.
[D19] An authorization number is required.	I	If an attempt was made to skip the authorization field when doing a manual authorization, warns with this message.
[D20] Charge Accepted.	I	The clearinghouse authorized the charge.
[D21] No Verification.	C	The charge was not authorized for unspecified reason.
[D22] Invalid Expiration date!	C	Displayed when the card is swiped. Means the expiration date was not in the MMY format.

[D23] Remote Credit Card files are no longer available.	M	Does not apply at this time.
[D24] Transaction Expired	I	You tried to release a transaction that was on hold and has gone beyond the allotted number of hold days
[D25] Amount greater than what was originally authorized.	I	Only used when the CCV.HOLD.FLAG is set to 'R', meaning that you are releasing a transaction that you previously put on 'HOLD'. Means that amount you are trying to release is greater than what was authorized when transaction was put on hold.
[D26] Account number does not match.	I	Only used when the CCV.HOLD.FLAG is set to 'R', meaning that you are releasing a transaction that you previously put on 'HOLD'. Means that the account number does not match that of the transaction you put on hold.
[D27] Funds Already Released.	I	Only used when the CCV.HOLD.FLAG is set to 'R', meaning that you are releasing a transaction that you previously put on 'HOLD'. Means that the transaction has already been released from the hold, and has been settled, or is on the batch to be settled.
[D28] No entry found for this authorization.	I	Only used when the CCV.HOLD.FLAG is set to 'R', meaning that you are releasing a transaction that you previously put on 'HOLD'. Means that this transaction was never authorized.
[D29] This card is an ATM-Type Card. DO NOT ACCEPT!	I	
[D30] This is a proprietary credit card and may not be used.	I	
[D31] Card magnetic stripe is corrupt, please hand enter.	C	Unable to retrieve information from magnetic stripe.
[D38] Transaction Voided.	I	The transaction was removed from the file TOTAL.CC.HOLD, and AUTHORIZATION, attribute 6, on the file TOTAL.CC.RESULT had the word 'VOIDED' appended as a multivalued.
[D39] Transaction not Voided.	I	The transaction was not voided. Problem could be a mismatch in the following: account number, store, date, register, transaction number, or amount. It could also be that the transaction didn't authorize the first time, or that the transaction has already been settled in a batch.
[D40] Process () is not defined in ICOMM Link Specs	S	The Link Specification that was found on the tender code does not exist for the store specified. Setup in Link Specifications (menu>Setup>Link Specifications).
[D41] Invalid PIN Pad Type	S	PIN Pad Types are V2000 and V1000 for VeriFone.
[D42] Invalid Account!	S	Invalid account number.
[D43] Valid card types have not been setup for store#nn	S	You need to setup valid card types for Store # nn
[D44] Tender Code nn needs a communication link set up.	S	Set up a correct communication link for tender code nn
[D45] Please Enter Cash Back Amount:	P	This prompt will come up in the interactive mode when you run a PIN Pad debit card.
[D46] Invalid Cash Back Amount.		This error will show up if the amount passed in the CCV.CASHBACK or in response to prompt [D45] is invalid. Only on PIN Pad debit card transactions.
[D47] Is the Total Amount of \$\$\$ correct? <Y>=Yes, <N>=No.	P	This prompt will show up in the interactive mode when you enter a cash back amount in CCV.CASHBACK. It will add the cash back amount to the transaction amount and ask if the total is correct. Only on PIN Pad debit card transactions.
[D48] Cashback not valid on a Refund.		Error comes back on a PIN Pad refund. Passing an amount in CCV.CASHBACK is not valid in this case.
[D49] Invalid Transaction to refund against.		Error comes back on a PIN Pad refund if the original transaction does not exist or it was on a different card.

[D50] Do you have an authorization # from the bank? <Y>=Yes, <N>=No	C	Account did not validate but you may be able to call the bank and get an approval.
[D51] Cannot refund a voided transaction.	S	Error comes back on a PIN Pad refund if the original transaction was voided.
[D52] Cannot refund against original transaction because it was not approved.	S	Error comes back on a PIN Pad refund if the original never was approved.
[D53] Cannot refund for higher amount than original transaction.	S	Error comes back on a PIN Pad refund in the original was for a lesser amount the attempted refund.
[D54] Total refunds of <amount> will exceed the original authorized amount of <amount>	S	Error comes back on a PIN Pad refund if there was already one or more refunds against this transaction and the total amount of the refunds exceeds the original amount.
[D55] Length must be 17 characters or less.	S	Error that displays in interactive mode for Level II transactions if the Customer Reference number is longer than 17 characters.
[D56] Decryption of account number failed.	S	Decryption of credit card data failed. Cannot authorize against original card number.
[D57] <encryption error message>	S	Problem with encryption. Error message can vary.
[D58] Authorization Reversal Successful	I	The authorization of the original charge was reversed successfully.
[D59] Cannot Void PIN Pad Transactions. Must do refund.	S	
[D60] Authorization Reversal Not Successful (Rejection Message) Still removed from batch.	C	The authorization reversal of the original transaction was not successful, but the item was removed from batch. (Or amount changed if it was a partial reversal.)
[D61] Amount does not match original amount.	C	Specifically for doing a retry transaction. (Currently Paymentech only) This happens when the original amount does not exactly match the amount passed.
[D62] Unable to read ILS Link Specifications for "ILS-VISANET.D*1"	S	There was an error when trying to read the ILS link specs (setup in menu Setup>Link Specifications). For the communications link of VISANET.D and store 1, this would be stored in TOTAL.CC.CONTROL ILS-VISANET.D*1 for example.
[D101] Process timed out.	M	Unable to connect to the clearinghouse within the allotted time. Often this is because the background process is not running.
[D102] Unknown error.	M	This may be a communications error, but it is recommended that you check the TOTAL.CC.RESULT record.
[D103] <message varies>	M	This error will contain the last status of the transaction. It may be a message from the communication program (pgPost, curl, etc.) if you are running over the Internet. It may contain a modem error. Or it may contain the host response.
[D104] Process timed out, communication process may be hung.	M	This message means the process has not returned from the communication process in a reasonable amount of time whether that process be a modem, Internet process or network communication expecting a response on a charge. Currently this allows 60 seconds for the communication to take place.
[F01] Unable to read Flash data for nnnn	S	The key to the TOTAL.FLASH.PASS file was invalid.
[F02] Unable to read Flash CCV data for nnnn	S	The key for the CCV.REC in the TOTAL.FLASH.PASS file was invalid.
[F03] Null data returned from T\$FLASH.PASS.FILE.	S	Expected data was not written out and therefore is not available to complete the transaction.
[F04] Could not open Flash files.	S	Attempt to open TOTAL.FLASH.PASS or other CC files failed.
[V32] Invalid Card Prefix	C	Card Prefix was not correct. (VISA, MasterCard, etc.)
[V33] Invalid Account Length	C	Account length was not correct for the account type.
[V34] Account Number has Invalid Check Digit	C	Usually means that one of the digits of the account number was entered incorrectly.
[V35] Process (process name) is not turned ON.	S	The process name is usually MODEM. This means you need to go to 'Start or Stop a Process' and turn it on.

[V36] You need to call Total Computing Solutions @ 801-796-8320 or contact us on the web @ www.total-computing.com for a license activation number.	S	The activation has run out, and needs to be replaced.
[V37] Your license to use this product expires in 7 days.... You need to call Total Computing Solutions @ 801-796-8320 or contact us on the web @ www.total-computing.com for a license activation number.	S	The activation code is about to run out, and needs to be replaced.
[K01] The Store value must be assigned.	S	Problem with the key data that is being passed
[K02] The Date value must be assigned.	S	Problem with the key data that is being passed
[K03] Invalid Date field.	S	Problem with the key data that is being passed
[K04] The Transaction/Invoice # must be assigned.	S	Problem with the key data that is being passed
[K05] The Register # must be assigned.	S	Problem with the key data that is being passed
[K06] The Amount value must be assigned.	S	Amount cannot be 0 or blank.
[K07] The amount must be numeric.	S	No decimals in the amount field
[K08] REQ.ID and STORE Key fields must match.	S	When you pass the REQ.ID it must also match the key fields.
[K09] REQ.ID and DATE Key fields must match.	S	When you pass the REQ.ID it must also match the key fields.
[K10] REQ.ID and REGISTER Key fields must match.	S	When you pass the REQ.ID it must also match the key fields.
[K11] REQ.ID and TRANSACTION Key fields must match.	S	When you pass the REQ.ID it must also match the key fields.
[K12] The nnn variable cannot have "*" in it.	S	STORE, DATE, REG, and TRANS cannot have imbedded asterisks.
[K13] Amount must be zero on a card authentication.	S	Send a "0" in the AMOUNT when the CCV.SOURCE = "A".
[K14] No manual authorizations on a card authentication.	S	Do not send anything in CCV.AUTH.CODE when sending the CCV.SOURCE code as "A".

[001] Unable to Connect Within Time Limit.	M	
[002] Unable to Dial. Modem Error.	M	
[003] No Connection, Line Busy.	M	
[004] Unable to connect for unknown reasons.	M	
[005] Invalid Tran Code.	S	
[006] Initiating Dial-Up Sequence.	I	
[007] Line Busy.	M	
[008] Unable To Connect. Redialing...	M	
[009] Modem Error While Dialing.	M	
[010] Modem Not Responding To Commands.	M	
[011] Waiting For Polling Sequence.	I	
[012] Host Disconnect. No polling sequence.	M	
[013] Sending Request To Host.	I	
[014] Host Disconnect... No Response.	M	
[015] No Host Response.	M	

[016] Response Received From Host.	I	
[017] Request Consistently Corrupt.	M	
[018] Request Garbled... Re-Sending.	M	
[019] Checking Response For Errors.	I	
[020] Valid Host Response Received.	I	
[021] 3 Garbled Responses.	M	
[022] Response Garbled...	M	
[023] Host Did Not Poll.	M	
[024] No Communications Link Defined.	S	
[025] Premature Host EOT.	M	
[026] Sending Detail Scripts...	I	
[027] Failed to connect. Reset modem and Toggle the CC process control	M	
[028] No Response From DC1.	M	
[029] Host Disconnect After DC1.	M	
[030] Request Corrupted.	M	
[031] Wrong ACK/BEL Sequence.	M	
[032] Sending Header Script.	I	
[033] No Host Response To Header.	I	
[034] Sending Trailer Script.	I	
[035] Host Disconnect After Header.	M	
[036] Sending Terminal Parameters.	I	
[037] No Response To Terminal Parameters.	M	
[038] Host Disconnect After Term. Parm.	M	
[039] No Host Response To Detail Record:	M	
[040] Host Disconnect On Detail:	M	
[041] Disconnecting... 2 Min. Stall Exceeded.	M	
[042] No Host Response To Trailer.	M	
[043] Host Disconnected On Trailer.	M	
[044] Receiving Host Data Script.	I	
[045] Disconnecting... Response Garbled 3 Times	M	
[046] Data Capture Successful.	I	
[047] Data Capture Failed.	I	
[048] Data Capture Cancelled Prematurely.	M	
[049] Processing Host Error Script.	I	
[050] Host Disconnect While Sending Error Script	M	
[051] Partial Script:	I	
[052] Host Error Script Timed Out.	M	
[099] The Modem Is Not Responding.	M	
[100] The Request Was Lost Somewhere.	M	
[101] Process Timed Out.	M	
[102] Process not available.	S	
[103] Unable to Open the Modem Control File.	S	
[104] Unable to Open Credit Card Request File	S	
[105] Unable to Open Credit Card Result File.	S	
[106] Unable to Open Credit Card Hold File.	S	
[107] Unable to Open CC Control File.	S	
[108] Process does not exist.	S	
[109] Process Link definition does not exist.	S	
[110] Local Transfer Utility Failure.	S	
[111] Unable to Open Utility File.	S	
[112] Unable to Connect With Remote.	M	
[113] Remote Process Buffer Not Quiescent.	M	
[114] Remote Process Not Logging On.	M	
[115] Logoff of Remote Process Successful.	M	
[116] Remote Process Not Logging Off.	M	
[117] Unable to execute remote commands.	M	
[118] Remote Computer In Debugger.	M	

[119] Remote Not Returning to TCL.	M	
[120] Unable to Set Port Characteristics.	M	
[121] Unable to Open Credit Card History File	S	
[122] Unable to Open Credit Card adjustments	S	
[123] Sending Trailer Script.	I	



## 8. Batch Settlement/Closing Response Codes

### 8.1 TSYS (Vital or VisaNet)

#### 8.1.1 Accepted Batch

The host response will be **GB**nnnnn where nnnnn is the batch number (ex. GB000164).

#### 8.1.2 Rejected Batch

The host response will be **RB**nnnnn where nnnnn is the batch number. Following the batch number is the following:

Length	Format	Description	Content
1	A/N	Error Type	B=Blocked Terminal C=Card Type Error D=Device Error E=Error in Batch S=Sequence Error T=Transmission Error U=Unknown Error V=Routing Error
4	NUM	Error Record Sequence	Right-Justified/Zero-Filled
1	A/N	Error Record Type	H=Header Record P=Parameter Record D=Detail Record T=Trailer Record
2	NUM	Error Data Field Number	99
32	A/N	Error Data	Left-Justified/Space Filled

#### 8.1.3 Rejected Batch

The host response will be **QD**nnnnn where nnnnn is the batch number. Following the batch number is the following:

Length	Format	Description	Content
4	NUM	Batch Transmission Date	MMDD
21	A/N	Filler	Spaces

## 9.0 Software Upgrade Procedures

We have found that the easiest way for us to distribute software upgrades is to have a software account separate from the user account. This ensures user data integrity and eliminates the need (usually) to recompile software. It also makes it easy to roll back. This has been our normal procedure for our retail customers and we feel it is the best way for TotalLink.

We will distribute the software via email attachment, FTP, diskette, or tape. Installation instructions may vary depending on the method of deployment. Once and upgrade or update is installed it is necessary to incorporate/register/activate any changes. This is done through a proc - TL.UPGRADE that is executed at TCL.

The entire upgrade procedure is as follows:

1) At TCL in each TOTALINKxxxx account (other than TOTALINK.SOFT) Type TL.UPGRADE

This does the following:

- 1) Catalog all ISB.BP programs
- 2) Catalog all TOTAL.BP programs
- 3) Create any new or missing files
- 4) Copy all dictionary items (with overlay) from TOTALINK.SOFT for all data files.

2) From the TOTALINK menu choose #5 Setup, #25 Install in Another Account

This does the following:

- 1) Copies cataloged program pointers to the target account
- 2) Write q-pointers (all beginning with ISB. or TOTAL.) on the MD/VOC of the target account

## 10. D3 Flash Basic Work-Around

If your application uses NON-Flash-Compiled programs and you are using a release of D3 older than 7.2.1 patch 344 then please review this section.

Due to unresolved issues with D3 releases regarding Named Common and Flash-Compiled programs the following should be considered.

**Note: Programs in TOTAL.BP that end with the word "FLASH" are the only programs that are Flash-Compiled.**

### 10.1 TL.TOTALINK

Instead of calling TL.TOTALINK you need to call TL.TOTALINK.FLASH. One more parameter is required in the CALL and other changes in the code should be made. Here is the same code list in section 4 with the flash differences in red. (The previous comments that were in red are now in green.)

\* You must write the equivalent of this program. The lines in black should remain, you may replace the lines in red. Further explanation of variables is provided after.

\*

\* Add this to the top portion of your program.

INCLUDE TOTAL.INC FLASH.FILES

MAT T\$FILES = ''

INCLUDE TOTAL.INC CCV.EQUATES

\*

\* If this is a credit card charge and you have the amount then

\* Insert this code immediately before calling our subroutine.

\*

MAT CCV.REC = ''

VERIFIED = 0

CALL TL.TOTALINK.FLASH(STORE, DATE, REG, TRANS, AMOUNT, VERIFIED, MAT CCV.REC, MAT T\$FILES)

!

IF VERIFIED THEN

\* Do whatever you would like with the data in the CCV record.

\* TL.TOTALINK has written everything we need into the files we use for settlement and reconciliation.

END ELSE

\* Do your rejection to the customer routine here

\* In non-eCommerce transactions the clerk/cashier will have seen and responded to an appropriate message.

END

\*

\* Get the next amount to be charged

RETURN; REPEAT; \* This will be an appropriate statement to get the next charge or to quit

### 10.2 TL.SPEED.DIAL

Change the call to **CALL TL.SPEED.DIAL.FLASH**(STORE, AMOUNT, PROTOCOL, MAT T\$FILES). If you are using the speed dialer in a program other than the one in section [10.1 TL.TOTALINK](#) then you will need to add INCLUDE TOTAL.INC FLASH.FILES and MAT T\$FILES = ''.

### 10.3 TL.VERIFY.CREDIT.CARD

Change the call to **CALL TL.VERIFY.CREDIT.CARD.FLASH**(ACCOUNT, VERIFIED, TYPE, ERROR.MSG). Note that the argument list is the same.

### 10.4 TL.TOTALINK.INIT

Not many applications require the use of this program. If you do use it then you will need to add **CALL TL.TOTALINK.INIT.FLASH**(MAT T\$FILES). You will also need to include FLASH.FILES and MAT T\$FILES = '' near the top of your program.

## 11. Universe & Unidata specifics.

### 11.1 Universe & Unidata Spooler

Printer entries for U2 are stored in the file TOTAL.CO.CTL.

The item key is U2.PRINTERS (If U2.PRINTERS is not there we look for UNIVERSE.PRINTERS; this is to conform with the old standard)

The record can be maintained through menu option TL-SA-26 (26. U2 Printer Setup).

Each attribute is the printer/form queue setup string.

**Attribute 1 is printer/form queue 0**

**Attribute 2 is printer/form queue 1**

Et. Cetera.

Here is an example:

```
ED TOTAL.CO.CTL UNIVERSE.PRINTERS
```

8 lines long.

---: P

```
0001: SETPTR 0,132,60,0,0,1,BRIEF,NFMT,NHEAD,RETAIN,INFORM,FORM STD,AT Q2
```

```
0002: SETPTR 0,132,60,0,0,1,BRIEF,NFMT,NHEAD,RETAIN,INFORM,FORM STD,AT Q2
```

```
0003: SETPTR 0,132,60,0,0,1,BRIEF,NFMT,NHEAD,RETAIN,INFORM,FORM STD,AT Q2
```

```
0004: SETPTR 0,132,60,0,0,1,BRIEF,NFMT,NHEAD,RETAIN,INFORM,FORM STD,AT Q2
```

```
0005: SETPTR 0,132,60,0,0,1,BRIEF,NFMT,NHEAD,RETAIN,INFORM,FORM STD,AT Q2
```

```
0006: SETPTR 0,132,60,0,0,1,BRIEF,NFMT,NHEAD,RETAIN,INFORM,FORM STD,AT Q2
```

```
0007: *****
```

```
0008: * Line 1 is printer 0, line 2 is printer 1, ...
```

```
Bottom at line 8.
```

#### Spooler Admin

It may be necessary for Universe users to copy the VOC entry of SPOOLER.ADMIN from the uv account to the TOTALINK account.