micros

Restaurant Enterprise Series

Transaction Vault Debit Card Driver for 3700 POS Version 4.13

January 4, 2013

MD0003-118

Declarations

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Installation and Setup

This section contains installation and setup instructions for the Version 4.13 release of the Transaction Vault Debit (CaTVD) Card Driver. The Transaction Vault debit driver is available on the MICROS web site Product Support page.

The debit version of the Transaction Vault driver may be used on RES systems running Version 3.2 SP7 HF6 or higher, or Version 4.1 HF2 or higher.

In This Section...

Introduction

The Merchant Link TransactionVault solution minimizes the ability for a merchant's cardholder data to be compromised. All sensitive data is stored in the TransactionVault, a hosted database at Merchant Link, instead of in the merchant's local RES database. Merchant Link's TransactionVault coupled with MICROS 3700 secures data for the customer minimizing the potential for security breaches.

The purpose of the TransactionVault feature is to remove sensitive credit and debit card information from the RES data store. This is done by using Merchant Link to provide the card storage at their data center. In exchange, Merchant Link provides a TransactionVault key that replaces all cardholder information at the customer site. The key utilizes leading edge encryption technology, which helps to ensure that only TransactionVault can match the key to access the cardholder information.

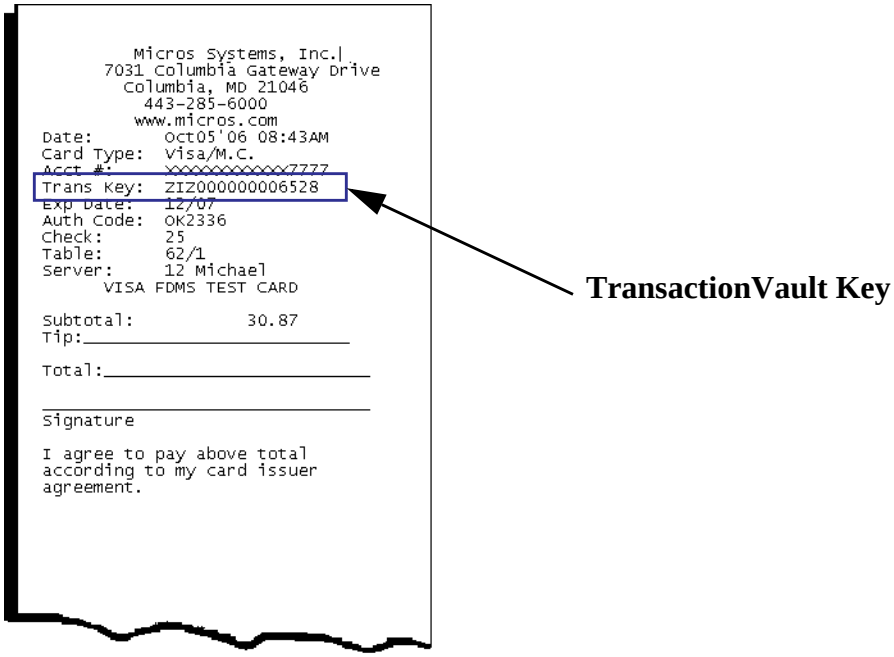
For additional information about TransactionVault see the *RES 4.1 HF2 ReadMe First, MD0003-098* or the *RES 3.2 SP7 HF6 Documentation*.

How it Works

Traditionally, cardholder data (card number, expiration date, and the cardholder name) is stored by the RES system until it is purged from the system, typically within 90-180 days after settlement. RES automatically detects when TransactionVault payment drivers are installed.

When obtaining an authorization for a transaction, the MICROS database will delete the cardholder data from the system, replacing it with a 15-character **TransactionVault Key** obtained from Merchant Link during the authorization process. All cardholder data is stored in Merchant Link's TransactionVault. The TransactionVault Key becomes the reference number for merchants if it is necessary to lookup cardholder data.

The TransactionVault Key is printed on the authorization voucher.



> ***Note*** *Keep a record of the authorization voucher. Referencing the TransactionVault Key will be the only way to correct a transaction if an issue should arise.*

There are several instances when cardholder data will be stored on the RES system. We refer to these instances as offline transactions. The following are the four types of offline transactions available through RES:

- Credit/Debit Transaction
- SAR/BSM Transaction
- Manual Authorization
- Below Floor Limit Transaction

Additionally, during authorization, the user will not be prompted to enter Address Verification (AVS) and Credit Card Verification (CVV) for transactions performed offline except for Below Floor Limit Transactions.

When an offline transaction is performed, the system will encrypt and store the cardholder data until the system is online and does a settlement. The settlement process has been enhanced to first process offline transactions, obtaining a TransactionVault Key for each of these transactions, and then deleting cardholder data from the system. Once complete, normal settlement will occur processing all transactions via their TransactionVault Key.

Corrective Authorizations for Debit Transactions

With a debit transaction money is transferred at the time that the transaction is performed and cannot be edited after they are approved. For this reason corrective authorizations are not permitted for debit transactions. Corrective authorizations are only permitted for credit card transactions. If a Corrective Authorization is attempted with a debit driver the following message will display:

```
Corrective Auth Not Permitted
```

Secondary Level Encryption

This functionality uses a propriety protocol. It is not available for use at this time.

Settlement

Batch settlement with the Transaction Vault Driver is a two step process. The first step is to submit all offline authorizations to the processor. During this step, the settlement process scans the batch records for any offline authorizations. All offline transactions are processed to Merchant Link where they receive a TransactionVault Key.

After all of the records have been issued TransactionVault Keys, the settlement process begins to transmit the batch to the processor. Unlike traditional drivers, TV does not transmit customer information. Instead the RES system sends the TransactionVault Key and the total amount owed to the processor. The processor will then match the TransactionVault Key to the appropriate customer account.

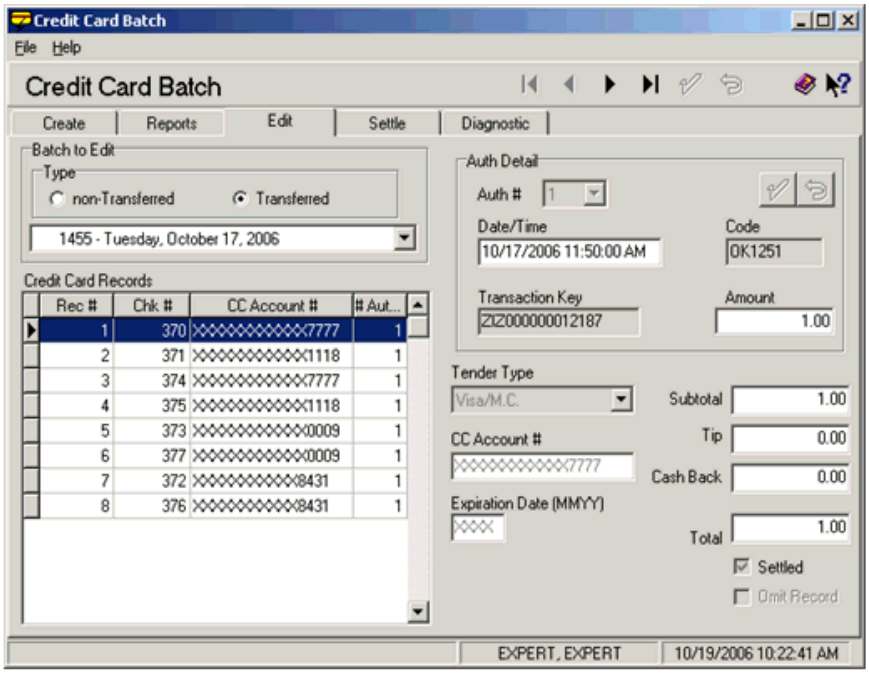
Following a successful batch, no customer information is stored in the RES system.

In previous Credit Card Drivers, an option to **Disable Auth Code Limit** was available. This option has been omitted from the POS Configurator with the Transaction Vault Driver and it is now enabled by default. If a manual authorization is performed, and the user enters a value greater than 6 characters in the Auth Code field, the settlement driver will truncate the code down to the first 6 characters only. The record will then be settled with the truncated Auth Code.

Credit Card Batch Utility

To support the TransactionVault Key, a field has been added to the *Credit Card Batch Utility* | *Edit* form. The **TransactionVault Key** field will display the assigned transaction key.

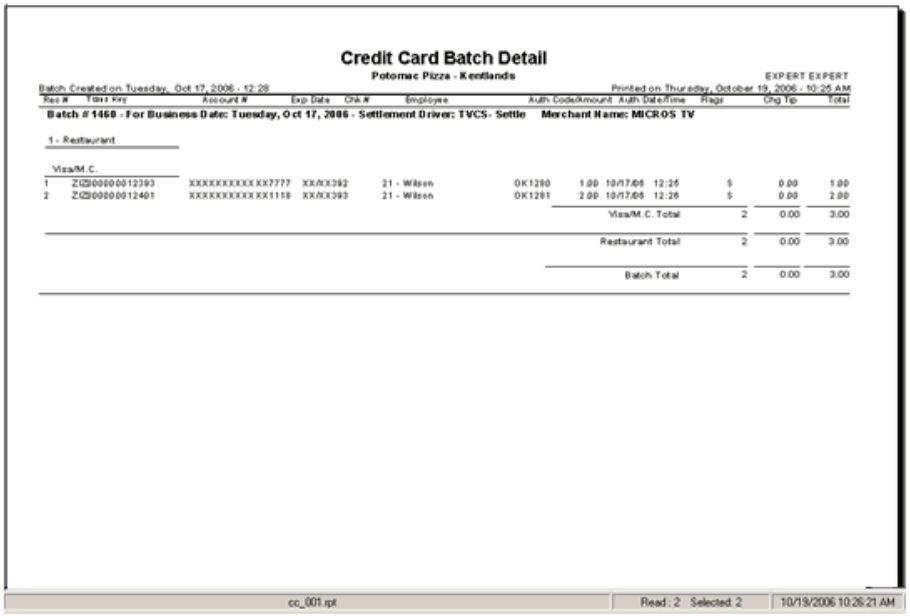
The TransactionVault Key can be edited if it is entered manually due to a corrective authorization.



Reports

The following report has been altered to support the Transaction Vault Payment Driver.

Credit Card Batch Detail Report – A TransactionVault Key column has been added to this report. The 15-digit TransactionVault Key associated with the transaction will be listed in this column. The customer name column has been removed from the report.

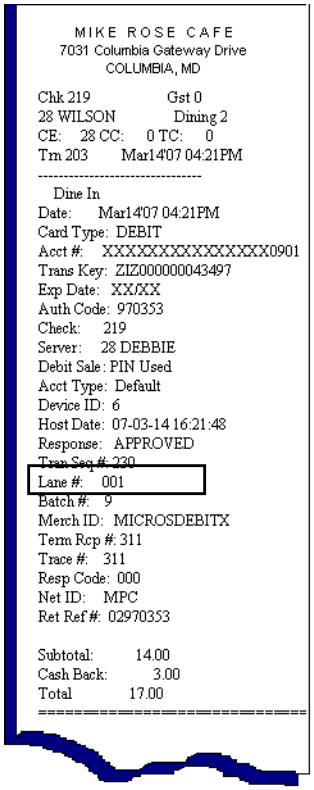


Assigned Lane Numbers to VX670 Devices

A lane number is a unique identifier assigned to each workstation or handheld payment device when it is used for debit transactions requiring a PIN Pad entry. The Lane Number allows the system to keep track of the devices submitting debit authorization requests to the host processor.

When the Verifone device first submits a debit authorization, it will be assigned a Lane number automatically. The Lane Number will increment from 1 to 999. In the event that a Lane Number reaches the maximum (e.g., 999), all of the Lane Numbers will be deleted and the numbers will start again from 1. The number will appear on the

voucher addendum returned by the driver to the workstation after the transaction is complete.



MIKE ROSE CAFE
7031 Columbia Gateway Drive
COLUMBIA, MD

Chk 219 Gst 0
28 WILSON Dining 2
CE: 28 CC: 0 TC: 0
Trn 203 Mar14'07 04:21PM

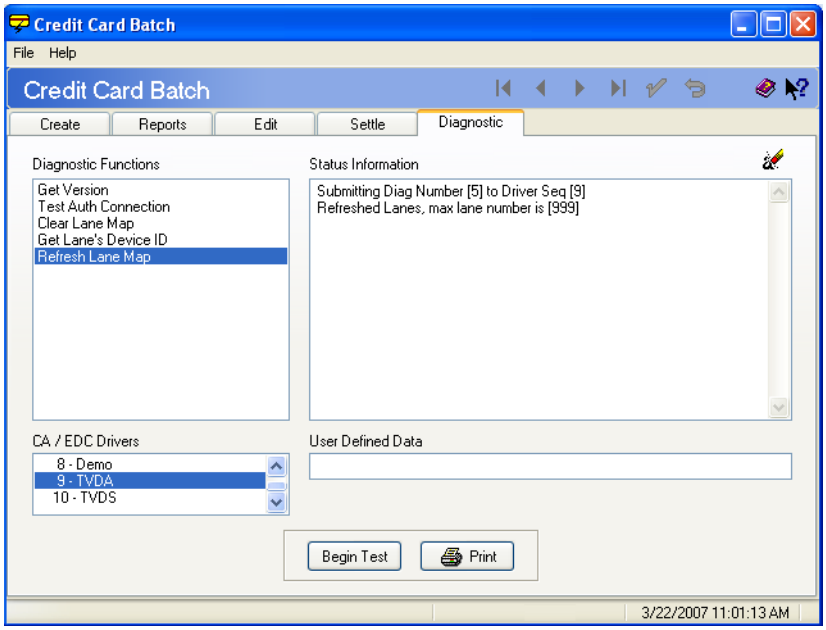
Dine In
Date: Mar14'07 04:21PM
Card Type: DEBIT
Acct #: XXXXXXXXXXXXXXX0901
Trans Key: ZIZ000000043497
Exp Date: XX/XX
Auth Code: 970353
Check: 219
Server: 28 DEBBIE
Debit Sale: PIN Used
Acct Type: Default
Device ID: 6
Host Date: 07-03-14 16:21:48
Response: APPROVED
Tran Seq #: 230
Lane #: 001
Batch #: 9
Merch ID: MICROSDEBITX
Term Rcp #: 311
Trace #: 311
Resp Code: 000
Net ID: MPC
Ret Ref #: 02970353

Subtotal: 14.00
Cash Back: 3.00
Total 17.00
==========

The Pin debit device will maintain the same Lane Number after performing a reboot. Lane Numbers can be changed via the Credit Card Batch Utility by running the Refresh Lane Map function under the *Diagnostics* tab.

The TransactionVault Debit Driver uses the Windows registry to store the Lane Number device identifiers. A **LaneMap** registry key was added under the driver's configuration key. Each Vx670 device will represent a value name in the registry. The value data will be the Lane number associated with that device.

To support this feature the following diagnostic functions have been added. Each can be accessed by navigating to the *Credit Card Batch Utility* | *Diagnostic* tab and selecting **[Begin Test]**.



- **Clear Lane Map –** This diagnostic will delete all lane map values from the registry.
- **Get Lane's Device ID –** This diagnostic displays the device ID corresponding to the Lane Number value entered in the **User Defined Data** field in the diagnostic.
- **Refresh Lane Map –** This diagnostic forces the drive to re-read all of the Lane Numbers in the registry. Use this function if one of the lane number values has been changed manually via the registry.

Debit Reversals

This section describes the scenarios which result in the transmission of a debit reversal, when the debited transaction amount is returned to the customer's card.

In a situation where the CaTVD driver times out, no amount is charged to the card, therefore no reversal will be performed.

Scenario 1

In this scenario, no confirmation is received from MICROS back to Merchant Link, which triggers a reversal.

1. MICROS sends a Debit Authorization request to Merchant Link. The TVD driver sets a 50 second timer awaiting a response.
2. Merchant Link forwards the request to the bank.
3. The bank sends a response but MICROS doesn't receive the host's response (e.g., lost in transit) before the timer expires. As a result, MICROS does not send back a Confirmation Record to the Merchant Link TransVault gateway.
4. Debit reversal is initiated from Merchant Link and sent to the bank.

Scenario 2

In this scenario, no host response is sent to Merchant Link, which results in a debit reversal.

1. Merchant Link TransVault does not receive a confirmation response back from MICROS before the 50 second timer expires.
2. A debit reversal is sent to the bank.
3. If no response is received for the reversal, then Merchant Link will retry up to 3 times.
4. If no response is received, then the transaction is terminated. In this case, the reversal is stored in the Merchant Link database until it can be resent.

Installation

Site Requirements

Before installing the Transaction Vault Driver on the RES system, the following configuration items should be considered:

- The installed version of 3700 POS should be Version 3.2 SP7 HF6 or higher, or Version 4.1 HF2 or higher for credit, and Version 3.2 SP7 HF6 or higher, or Version 4.1 HF2 or higher for debit sites.
- To use Internet Connectivity, an Internet connection must be configured and working. ISP software may be needed to connect to the Internet.
- A dedicated modem and phone line are required for dial-up connectivity or fall-back to dial-up when using TCP/IP or Internet connectivity.
- Security protocols, including firewalls and other protections, should be in place.
- The site's browser software will need to support 128-bit session keys. (See section Internet Explorer Cipher Strength, for a method to check this.)
- TransactionVault Debit requires the submissions of a Change of Service Request with MerchantLink.

Files Included

Transaction Vault supports both credit card and debit card transactions. The credit and debit drivers are divided into an authorization driver and a settlement driver.

The following lists the files installed for the Trans Vault Debit Driver:

Authorization for Debit Cards (CaTVDA)

\Micros\RES\POS\Bin\CaTVDA.dll
\Micros\RES\POS\Etc\CaTVDA.cfg
\Micros\RES\POS\Bin\CaTVDA.hlp
\Micros\RES\POS\Bin\CaTVDA.cnt

Settlement for Debit Cards (CaTVDS)

\Micros\RES\POS\Bin\CaTVDS.dll
\Micros\RES\POS\Etc\CaTVDS.cfg
\Micros\RES\POS\Bin\CaTVDS.hlp
\Micros\RES\POS\Bin\CaTVDS.cnt

Additional Files

\Micros\RES\Common\Bin\libeay32.dll
\Micros\RES\Common\Bin\ssleay32.dll
\Micros\RES\Common\Bin\McrsOpenSSLHelper.dll
\WINNT\System32\MSVCR71.dll

Note *The MSVCR71.dll file is installed if it is not found in the \WINNT\System32 directory when the installation program is executed.*

Installation Instructions for a Site Running RES 3.2 SP7 HF6 or higher

The installation of debit card drivers are separate from RES software. When a site loads a new version of RES software the TransactionVault driver files and configuration will remain on the system. They do not need to be reinstalled.

Transaction Vault Debit requires RES Version 3.2 SP7 HF6 or higher.

1. Prior to installation, a new order form (new site) or a change of service form (existing site) must be submitted to Merchant Link, LLC. and you must contact their implementation department for TransactionVault setup information.
2. Make sure all current batches have been settled. MICROS recommends installing a new driver before the site opens for the day. This will ensure that all CA/EDC transactions have been settled to their current version.
3. Download the latest Transaction Vault Debit Driver from the MICROS web site. Copy the file to your RES Server's temp folder and unzip the files. The zip file includes the following:
   - Transaction Vault Debit Card Driver for RES 3700 POS (**CaTVD_V4.13_MD.pdf**)
   - Transaction Vault Debit Card Driver Software (**CaTVD(4.13.0.2468).exe**)
4. Shutdown the RES system from the **MICROS Control Panel**.
5. Double-click on the **CaTVD(4.13.0.2468).exe** file to execute the installation program. Skip to step 9 if the CaTVD driver should not be installed.

   During installation, the following files will be automatically copied into the Windows directories for the Server:

File	RES Server
CaTVDA.dll	\MICROS\RES\POS\BIN
CaTVDS.dll	\MICROS\RES\POS\BIN
CaTVDA.cfg	\MICROS\RES\POS\ETC

CaTVDS.cfg	\MICROS\RES\POS\ETC
CaTVDA.hlp	\MICROS\RES\POS\BIN
CaTVDS.hlp	\MICROS\RES\POS\BIN
CaTVDA.cnt	\MICROS\RES\POS\BIN
CaTVDS.cnt	\MICROS\RES\POS\BIN
libeay32.dll	\MICROS\COMMON\BIN
ssleay32.dll	\MICROS\COMMON\BIN
McrsOpenSSLHelper.dll	\MICROS\COMMON\BIN
MSVCR71.dll	\WINNT\System32

6. If a Backup Server Mode (BSM) Client is configured (*POS Configurator* | *System* | *Restaurant* | *Descriptions* | *Backup Server Network Node*) copy the **CaTVD(4.13.0.2468).exe** file to a Temp directory and run the installation program on this client. Verify that all required files listed in step 6 are copied to the correct directory paths.
7. Turn on the RES system from the **MICROS Control Panel**.

Installation Instructions for a Site Running RES 4.1 HF2 or Higher

The installation of debit card drivers are separate from RES software. When a site loads a new version of RES software the TransactionVault driver files and configuration will remain on the system. They do not need to be reinstalled.

The database can be at Front-of-House status while installing this driver.

Transaction Vault Debit requires RES Version 4.1 HF2 or higher.

1. Prior to installation, a new order form (new site) or a change of service form (existing site) must be submitted to Merchant Link, LLC. and you must contact their implementation department for Transaction Vault setup information.
2. Make sure all current batches have been settled. MICROS recommends installing a new driver before the site opens for the day. This will ensure that all CA/EDC transactions have been settled to their current version.
3. Download the latest Transaction Vault Debit Drivers from the MICROS web site. Copy the file to your RES Server's temp folder and unzip the files. The zip file includes the following:
   - Transaction Vault Debit Card Driver Documentation for RES 3700 POS (**CaTVD_V4.13_MD.pdf**)
   - Transaction Vault Debit Card Driver Software (**CaTVD(4.13.0.2468).exe**)
4. It is not necessary to shut down your RES system during installation. There cannot be any credit card transactions in progress so be cautious and take your RES system to the database level via the Control Panel.

Double click on the **CaTVD(4.13.0.2468).exe** file. Skip this step if the CaTVD driver should not be installed.

This will install of the necessary files on RES Server and the BSM Client, and Windows Services will be restarted automatically. The credit card server will restart automatically during the first Authorization Request or if the Credit Card Batch Utility is started.

File	RES Server	Backup Server Client
CaTVDA.dll	\MICROS\RES\POS\BIN	\Micros\RES\CAL\Win32\Files\MICROS\RES\POS\BIN
CaTVDS.dll	\MICROS\RES\POS\BIN	\Micros\RES\CAL\Win32\Files\MICROS\RES\POS\BIN
CaTVDA.cfg	\MICROS\RES\POS\ETC	\Micros\RES\CAL\Win32\Files\MICROS\RES\POS\ETC
CaTVDS.cfg	\MICROS\RES\POS\ETC	\Micros\RES\CAL\Win32\Files\MICROS\RES\POS\ETC
CaTVDA.hlp	\MICROS\RES\POS\BIN	\Micros\RES\CAL\Win32\Files\MICROS\RES\POS\BIN
CaTVDS.hlp	\MICROS\RES\POS\BIN	\Micros\RES\CAL\Win32\Files\MICROS\RES\POS\BIN
CaTVDA.cnt	\MICROS\RES\POS\BIN	\Micros\RES\CAL\Win32\Files\MICROS\RES\POS\BIN
CaTVDS.cnt	\MICROS\RES\POS\BIN	\Micros\RES\CAL\Win32\Files\MICROS\RES\POS\BIN
libeay32.dll	\MICROS\COMMON\BIN	\Micros\RES\CAL\Win32\Files\MICROS\COMMON\BIN
ssleay32.dll	\MICROS\COMMON\BIN	\Micros\RES\CAL\Win32\Files\MICROS\COMMON\BIN
McrsOpenSSLHelper.dll	\MICROS\COMMON\BIN	\Micros\RES\CAL\Win32\Files\MICROS\COMMON\BIN
MSVCR71.dll	\WINDOWS\System32	\Micros\RES\CAL\Win32\Files

Note *Once the driver files have been installed using the CaTVD executable into the \MICROS\RES\CAL\Win32|Files path, an automatic update will occur to all Win32 clients (including the Backup Server).*

Configuration Instructions

Each of the Transaction Vault drivers (i.e., CaTVDA, and CaTVDS) must be configured separately.

TV setup is not done until the CaTVDA, and CaTVDS driver forms are completed in *POS Configurator* | *Devices* | *CA/EDC Drivers*. An online help file is available to explain the general configuration requirements. However, entries for some options will be provided by the credit card processor. If so, be sure to enter this data exactly as given, as some fields may be case-sensitive. Entering the correct entry in the wrong format may result in communication failure at the Host Processor.

Configuring the CaTVDA and CaTVDS Drivers

The TV Debit Drivers require RES Version 3.2 SP7 HF6 or higher or RES Version 4.1 HF2 or higher.

1. Go to *POS Configurator* | *Devices* | *CA/EDC Drivers* and select the blue plus sign to add a record.

2. Enter a **Name** (e.g., **CaTVD-Auth**) and a value of the **Driver Code** field (e.g., **TVDA**) and save the record.

3. Go to the *System* tab and configure the following settings:

   - **Authorization Device** – Complete this step if you are using a modem for primary or fallback authorizations. If you are unsure of the device number, go to the command prompt in the *\POS\bin* directory and enter settle –m for a Version 3.2 RES Server or go to the command prompt in the *\Common\Bin* directory for a Version 4.1 RES Server. The following sample message will display:

     ```
     Device [1]: Boca 28.8 Kbps V.34 MV.34E
     Device [2]: Standard 1200bps Modem
     Device [3]: Standard 2400 bps Modem
     Select the appropriate device number.
     ```

   - **Not Used** – Leave this field blank.
   - **Port Arbitration Enabled** – Enter a value of 1 to enable this driver.
   - **Communications Channel** – Indicate the communication type enabled at the store (0= Dial-up, 1 = TCP, 2 = Internet).
   - **Phone Number** – Enter the phone number that will be used for authorizations, if necessary. This number will be provided by the credit card processor.
   - **Backup Phone Number** – Enter the secondary phone number that will be used for authorizations, if necessary. This number will be provided by the credit card processor.
   - **Host IP Address: Port** – Enter the IP address and port of the primary host connection. This field is only applicable if a TCP or an Internet connection is enabled.

- **Backup IP Address: Port –** Enter the IP address and port of the secondary host connection. This field is only applicable if a TCP or an Internet connection is enabled.
- Enter the **City, State** and **Zip Code** where the merchant is located.
- **SiteNET Customer ID** – Enter the siteNET customer identification information provided by Merchant Link.
- **Proxy IP Address: Port** – Enter the Proxy IP Address Port information, if needed.

4. Go to the *Merchant* tab and configure the following settings:
   - All settings under the *Merchant* **|** *Authorization* tab should be completed using the instructions provided by the bank. The following information is needed:
     - Acquirer BIN
     - Merchant ID Number
     - Store Number
     - Terminal Number
     - Merchant Name
   - Go to the *Merchant* | *RVC* tab and use the blue plus arrow to add all Revenue Centers that will use this driver.
5. Go to *POS Configurator* | *Devices* | *CA/EDC Drivers* and select the blue plus sign to add a record.
6. Enter a **Name** (e.g., **CaTVD-Settle**) and a value of the **Driver Code** field (e.g., **TVDS**) and save the record.
7. Go to the *System* tab and configure the following settings:
   - **Not Used** – Leave this field blank.
   - **Settlement Device** – Complete this step if you are using a modem for primary or fallback settlements. If you are unsure of the device number, go to the command prompt in the *\POS\bin* directory and enter settle –m for a Version 3.2 RES Server or go to the command prompt in the *\Common\Bin* directory for a Version 4.1 RES Server. The following sample message will display:

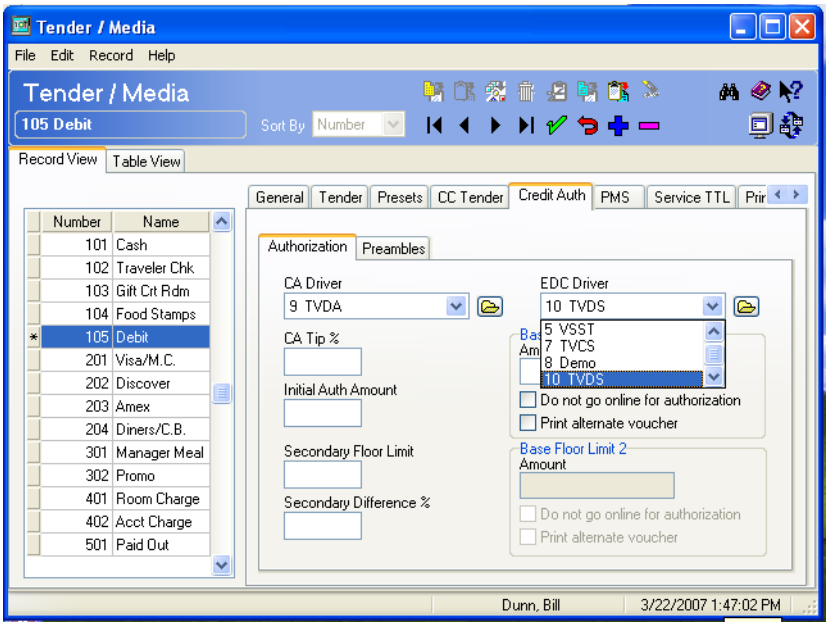
     ```
     Device [1]: Boca 28.8 Kbps V.34 MV.34E
     Device [2]: Standard 1200bps Modem
     Device [3]: Standard 2400 bps Modem
     Select the appropriate device number.
     ```

   - **Port Arbitration Enabled –** Enter a value of 1 to enable this driver.

- **Communications Channel –** Indicate the communication type being used at the store (0 = dial-up, 1 = TCP, 2 = Internet).
- **Batch Numbering Mode** – This field specifies the method to be used when assigning batch numbers during credit card settlement (0 = Static Batch Numbering Mode, 1 = Dynamic Batch Numbering Mode).
- **Phone Number** – Enter the phone number that will be used for settlement, if necessary. This number will be provided by the credit card processor.
- **Backup Phone Number** – Enter the secondary phone number that will be used for settlement, if necessary. This number will be provided by the credit card processor.
- **Host IP Address: Port** – Enter the IP address and port of the primary host connection. This field is only applicable if a TCP or an Internet connection is enabled.
- **Backup IP Address: Port –** Enter the IP address and port of the secondary host connection. This field is only applicable if a TCP or an Internet connection is enabled.
- Enter the **City, State** and **Zip Code** where the merchant is located.
- **SiteNET Customer ID** – Enter the siteNET customer identification information provided by Merchant Link.
- **Proxy IP Address: Port** – Enter the Proxy IP Address Port information, if needed.

8. Go to the *Merchant* tab and configure the following settings:
   - All settings under the *Merchant* | ***Settlement*** tab should be completed using the instructions provided by the bank.
   - Go to the *Merchant* | *RVC* tab and use the blue plus arrow to add all Revenue Centers that will use this driver. The following information is needed:
     - Acquirer BIN
     - Merchant ID Number
     - Store Number
     - Terminal Number
     - Merchant Name

9. Go to *POS Configurator* | *Sales* | *Tender Media* | *Credit Auth* form. Link the debit tender to the CaTVD driver by configuring the following fields:



- **CA Driver** – Use the drop down box to select the TVDA driver.
- **EDC Driver** – Use the drop down box to select the TVDS driver.

Configuring these options will automatically mask the Card Number, Customer Name, and Expiration Date on all debit card transactions.

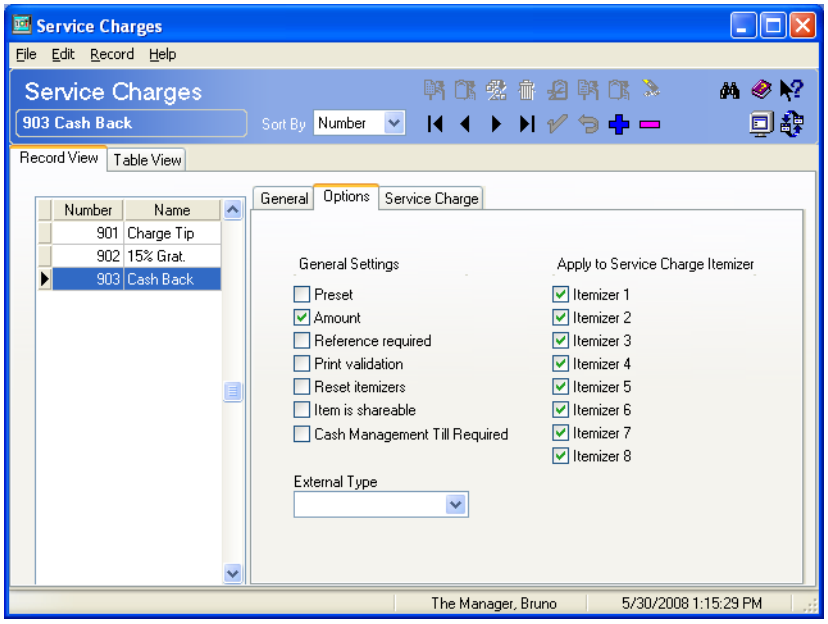
10. If using the cash back feature with the Transaction Vault Debit Driver in RES Version 3.2 SP7 HF6, the user must enable the **Prompt for cash back amount** option on the *POS Configurator* | *Sales* | *Tender/Media* | *CC Tender* tab. If this option is not enabled then the requested cash back amount will not be transmitted.

11. If using the Verifone PinPad 1000SE Device, then you will also need to configure a Cash Back Service Charge in POS Configurator. If the PinPad 1000 SE is not used at the site, proceed to step 12. MICROS recommends configuring the service charge as follows. Only the steps necessary to configure this feature are described, perform additional configuration as desired.

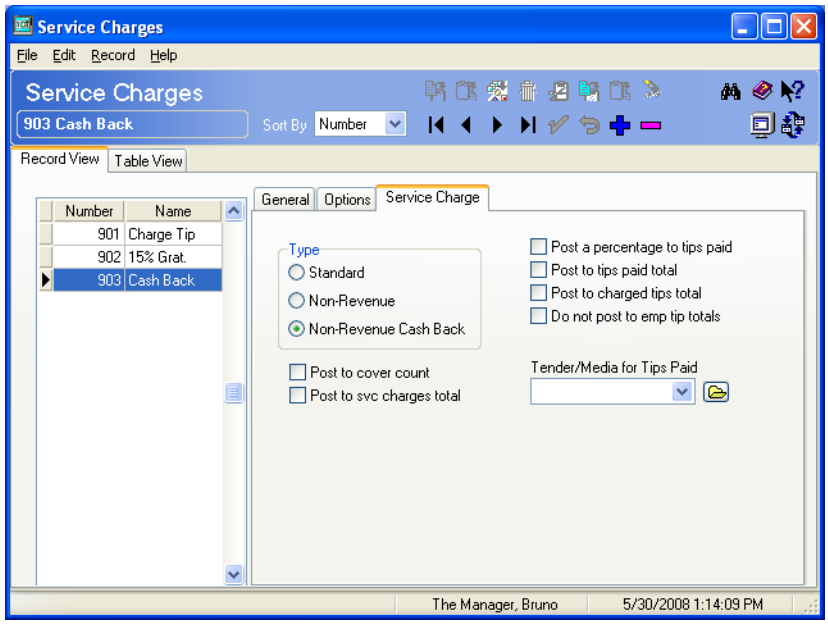
Note *The Verifone Vx670 PinPad device does not support Cash Back.*

- Go to the *POS Configurator* | *Sales* | *Service Charges* form to configure a Cash Back service charge. Add a new record and use the *Name* field to assign a unique descriptor (e.g., Cash Back).
- Go to the *General* tab and select **All Levels** in the **Menu Level Class** drop down.

- Go to the *Options* tab and configure the following fields:



  - **Amount.** Enable this option.
  - **Apply to Service Charge Itemizer.** Enable all 8 itemizers.
- Go to the *Service Charge* tab and enable the **Non-Revenue Cash Back** option.



- Go to *Devices* | *Touchscreens* and select the Payment screen. Link the Debit Tender Key. Create a new Cash Back key, or select the existing Cash Back key, and link it to the TVD debit tender.
- Go to the *Tracking Groups* form and add the Debit Card tender key to the Tracking Groups in the standard tracking section.
  - Add the Cash Back to the tracking group where the Cash - Tips Paid are located.

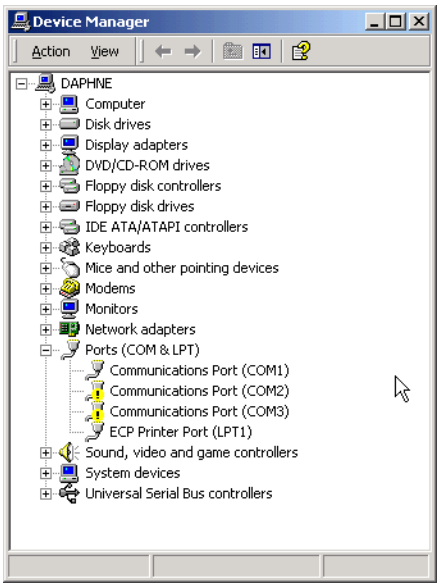
12. Go to *Start* | *Programs* | *Micros Applications* | *POS* | *Credit Card Batch*. Click on the *Diagnostic* tab and select the **Test Auth Connection** and the **Test Settlement Connection** buttons to verify that the drivers are up and running. A few test transactions can also be done to ensure all is working correctly.

PinPad Device Setup

When performing PIN Debit transactions, the following configuration options are required to link a PinPad device to a user workstation. This is for the hard-wired Verifone PINPad 1000 device only.

For Win32 Clients

1. From the Windows Start menu, right-click the My Computer icon and select *Properties* | *Hardware*. Click the **[Device Manager]** button to open the form (right).

   Select *Ports* | *Communication Port 1* | *Port Settings* and set the following options:

   - **Bits per second** — 1200
   - **Data bits** — 7
   - **Parity** — Even
   - **Stop bits** — 2
   - **Flow control** — None

2. In POS Configurator, select *Devices* | *Devices* | *Network Nodes*. Go to the *Com Port* tab and set the following options:

   - **Comm 1** — 1200
   - **Parity** — Even
   - **Num Data Bits** — 7

- **Num Stop Bits** — 2

3. Go to *Devices* | *User Workstations* | *Peripherals* and configure the PinPad device.

For CE Clients

1. In POS Configurator, select *Devices* | *Devices* | *Network Nodes.* Go to the *Comm Port* tab and set the following options:

   - **Comm 1** — 1200
   - **Parity** — Even
   - **Num Data Bits** — 7
   - **Num Stop Bits** — 2

> ***Note*** *ComPORT 4 or 5 can also be configured on the PINPad using the separate cable.*
>
> *This is only available if the site is running RES 3.2 SP7 HF6 or higher, or RES 4.1 HF2 or higher.*

Confidence Testing

Once the device is configured, test the PinPad hardware using the Micros Confidence Test (**MicrosCfdTest.exe**). Keep in mind that:

- A small keyboard and mouse will be needed to test the WS4.
- Before running the confidence test, close POS Operations by right-clicking the mouse and selecting the **Close** option.

> ***Note*** *When starting the Micros Confidence Test, if the error message "PinPad.dll is currently in use or unavailable." displays, wait 30 seconds and try again.*

Removing the Software

Removing Software From a Site Running RES 3.2 SP7 HF6 or Higher

Follow these steps to remove the CaTVD driver software from the RES Server and Backup Client:

1. Shut down the RES system from the **MICROS Control Panel**.
2. Delete the following files:
   - \Micros\Res\Pos\Bin\CaTVDA.dll
   - \Micros\Res\Pos\Etc\CaTVDA.cfg
   - \Micros\Res\Pos\Bin\CaTVDA.hlp
   - \Micros\Res\Pos\Bin\CaTVDA.cnt
   - \Micros\Res\Pos\Bin\CaTVDS.dll
   - \Micros\Res\Pos\Etc\CaTVDS.cfg
   - \Micros\Res\Pos\Bin\CaTVDS.hlp
   - \Micros\Res\Pos\Bin\CaTVDS.cnt
   - \Micros\Common\Bin\libeay32.dll*
   - \Micros\Common\Bin\ssleay32.dll*
   - \Micros\Common\Bin\McrsOpenSSLHelper.dll*

   ** These are shared .dlls that may be used by other drivers/applications. Proceed with caution when deleting them.*
3. Shut down the RES System on the Backup Server Client (if applicable).
4. Delete the following files:
   - \Micros\Res\Pos\Bin\CaTVDA.dll
   - \Micros\Res\Pos\Etc\CaTVDA.cfg
   - \Micros\Res\Pos\Bin\CaTVDA.hlp
   - \Micros\Res\Pos\Bin\CaTVDA.cnt
   - \Micros\Res\Pos\Bin\CaTVDS.dll
   - \Micros\Res\Pos\Etc\CaTVDS.cfg
   - \Micros\Res\Pos\Bin\CaTVDS.hlp

- \Micros\Res\Pos\Bin\CaTVDS.cnt
- \Micros\Common\Bin\libeay32.dll*
- \Micros\Common\Bin\ssleay32.dll*
- \Micros\Common\Bin\McrsOpenSSLHelper.dll*

** These are shared .dlls that may be used by other drivers/applications. Proceed with caution when deleting them.*

Removing Software From a Site Running RES 4.1 HF2 or Higher

Follow these steps to remove the TV credit and debit driver software from the RES Server and Backup Client:

1. Shut down the RES system from the **MICROS Control Panel**.
2. Delete the following files:
   - \Micros\Res\Pos\Bin\CaTVDA.dll
   - \Micros\Res\Pos\Etc\CaTVDA.cfg
   - \Micros\Res\Pos\Bin\CaTVDA.hlp
   - \Micros\Res\Pos\Bin\CaTVDA.cnt
   - \Micros\Res\Pos\Bin\CaTVDS.dll
   - \Micros\Res\Pos\Etc\CaTVDS.cfg
   - \Micros\Res\Pos\Bin\CaTVDS.hlp
   - \Micros\Res\Pos\Bin\CaTVDS.cnt
   - \Micros\Common\Bin\libeay32.dll*
   - \Micros\Common\Bin\ssleay32.dll*
   - \Micros\Common\Bin\McrsOpenSSLHelper.dll*

   ** These are shared .dlls that may be used by other drivers/applications. Proceed with caution when deleting them.*
3. Shut down the RES System on the Backup Server Client (if applicable).
4. Delete the following files:
   - \Micros\Res\CAL\Win32\Files\Micros\Res\Pos\Bin\CaTVDA.dll
   - \Micros\Res\CAL\Win32\Files\Micros\Res\Pos\Etc\CaTVDA.cfg
   - \Micros\Res\CAL\Win32\Files\Micros\Res\Pos\Bin\CaTVDA.hlp

- \Micros\Res\CAL\Win32\Files\Micros\Res\Pos\Bin\CaTVDA.cnt
- \Micros\Res\CAL\Win32\Files\Micros\Res\Pos\Bin\CaTVDS.dll
- \Micros\Res\CAL\Win32\Files\Micros\Res\Pos\Etc\CaTVDS.cfg
- \Micros\Res\CAL\Win32\Files\Micros\Res\Pos\Bin\CaTVDS.hlp
- \Micros\Res\CAL\Win32\Files\Micros\Res\Pos\Bin\CaTVDS.cnt
- \Micros\Res\CAL\Win32\Files\Micros\Res\Common\libeay32.dll*
- \Micros\Res\CAL\Win32\Files\Micros\Res\Common\ssleay32.dll*
- \Micros\Res\CAL\Win32\Files\Micros\Res\Common\McrsOpenSSLHelper.dll*

** These are shared .dlls that may be used by other drivers/applications. Proceed with caution when deleting them.*

Setup

Communication Channels Supported

- Dial-Up (Channel 0, system default)
- TCP (Channel 1)
- Internet, Encrypted via Merchant Link's siteNET gateway (Channel 2)

Communication Channel setup is done when setting up the driver in *POS Configurator* | *Devices* | *CA/EDC Drivers*.

Connectivity Considerations

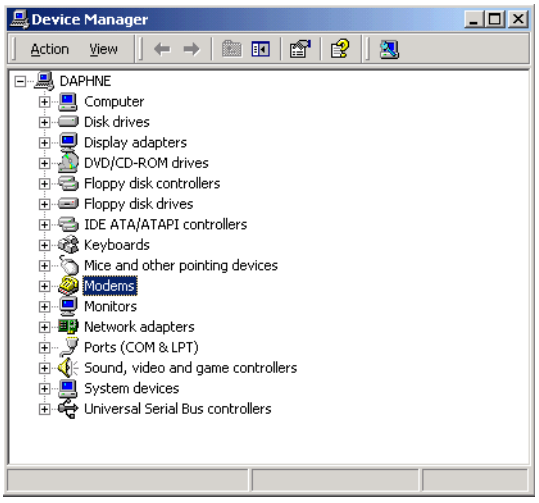
This section is provided as reference when installing the Transaction Vault Credit Card Driver.

Configuring Dial-Up Connectivity

Before beginning, make sure that the phone line being used is dedicated for credit cards only, and will not be used for other purposes.

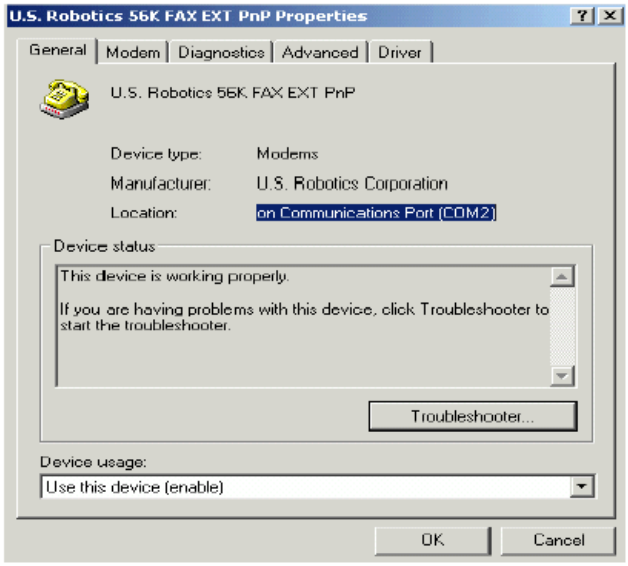
The following setup instructions are for Windows 2000 platforms or higher:

1. From the **Windows Start** menu, select *Settings* | *Control Panel* | *System*. Go to the *Hardware* tab and press the **[Device Manager]** button to open the form.

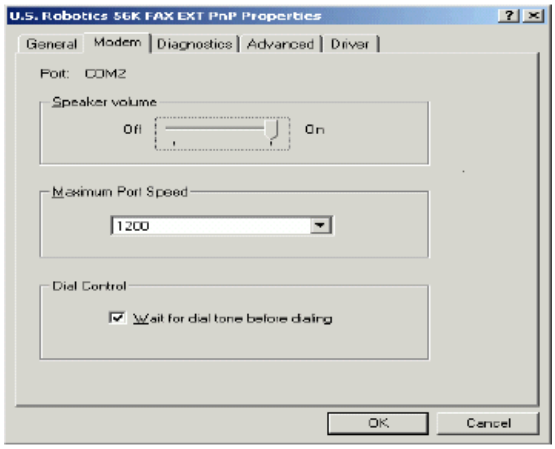


2. Expand the **Modems** entry and double-click on the modem to be used for credit card processing. The properties form will be displayed.

3. From the *General* tab, refer to the **Location** field. Write down the COM Port number, as it will be needed shortly.



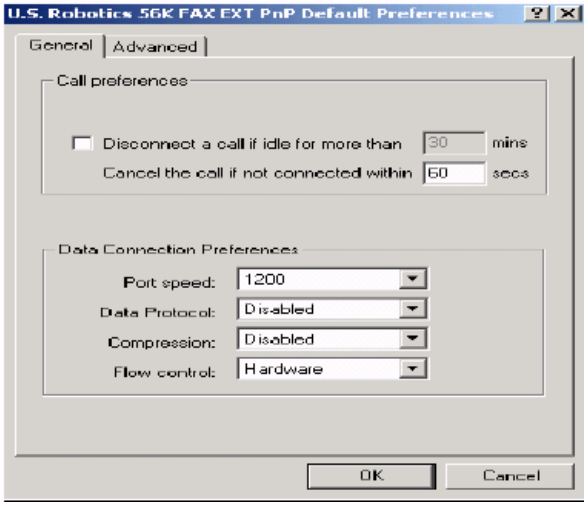
4. Go to the *Modem* tab.



5. Enable the **Dial Control** option and set the **Maximum Port Speed** to *1200*.

   NOTE: In some cases, port speed may need to be set to 2400. If so, this value must be changed to 2400 wherever else it appears in the configuration.

6. Go to the *Advanced* tab and click the **[Change Default Preferences]** button to open the preferences form.



7. On the *General* tab, set the options as follows:
   - **Port speed** — 1200 (or 2400, as discussed in step 4)
   - **Data Protocol** — Disabled
   - **Compression** — Disabled
   - **Flow control** — Hardware
8. Go to the *Advanced* tab and set the options as follows:
   - **Data bits** — 7
   - **Parity** — Even
   - **Stop bits** — 1
   - **Modulation** — Standard
9. Click the **[OK]** button (twice) to accept the changes and return to the Device Manager screen.
10. Expand the **Ports** menu entry and double-click on the COM Port identified in Step 2.
11. Go to the **Port Settings** table and select the following options:
    - **Bits per second** — 1200 (or 2400, as discussed in step 4)
    - **Parity** — Even
    - **Stop bits** — 1
    - **Flow Control** — Hardware

12. Click **[OK**]to save and close the **System** forms.
13. Exit the Control Panel and reboot the PC.

Configuring TCP Connectivity

Merchants can use a private network to process credit card transactions. A secure corporate network is closed to the public and uses security protocols to prevent unauthorized access. Message traffic on a private network is not encrypted. When a private network is used, the 3700 POS can be configured to either connect directly to Merchant Link (ML) or via a corporate WAN connected to Merchant Link.

Network configurations are typically setup one of two ways:

- Satellite connection from each site to ML. This requires contracting with a satellite vendor that has a TCP connection from their satellite hub to Merchant Link.
- Connection from each site to a corporate WAN and TCP connection from corporate to ML.

1. Host And Backup Host Configuration

In order to process via TCP, contact ML for Host configuration information.

2. Fallback Configuration

The TV has a built-in feature to support failover or “fallback” capability for authorizations using either TCP or Internet Connectivity. This feature enables the driver to automatically switch from a TCP protocol to dial-up if the connection to Merchant Link fails. In other words, fallback is initiated when the MICROS 3700 POS cannot connect to the credit card host.

Fallback is **not** initiated if the POS makes the connection but then an error occurs (i.e., the connection is lost). In this case, the user receives an error and can try the transaction again. If the system consistently connects and then errors out, MICROS recommends the following:

1. Place a call to your support desk.
2. Change the **Communication Channel** option to Dial-up (0) until the situation is resolved.

For this functionality to work, a modem must be installed on the RES Server. The device number and network phone numbers must also be entered into the driver configuration.

As a first step in setting up **Fallback** mode, MICROS recommends testing the TV with a communications channel configured for Dial-up (0). Once the system can process credit card transactions in this mode, the communications channel can be changed and the modem can be configured in *POS Configurator* | *Devices* | *CA/EDC Drivers*. This includes specifying the **Authorization** and **Backup Authorization Phone Numbers**.

3. Confirmation Of Connectivity With Network Default Gateway

Most networks have specified gateway routers where connections need to be routed before they can get to the "outside world." To confirm a connection is getting through the merchant's network, ping the address of the Default Gateway router. If the address is unknown, follow these steps to determine the default gateway's IP address:

1. Go to a command prompt.
2. Type **ipconfig /all**
3. Find the line that reads default gateway.
4. Type **ping**, then the **IP address** from Step 3.

If pings to the Default Gateway are unsuccessful, then the Merchant's IT group will need to troubleshoot and fix the issue within their network.

4. Confirmation Of Connectivity With The Merchant Link Network

The easiest way to test the connection from the RES Server to the Merchant Link Network through a frame circuit is by pinging from a command line on the RES Server. This can be done in conjunction with Merchant Link. For more information, contact ML for connection information.

5. Test TCP/IP Connectivity via Credit Card Utility

Another way to test the connection (from the RES Server to the Merchant Link Network through a frame circuit) is to use the diagnostic tools in the Credit Card Batch Utility. This can be done as follows:

1. Open the **Credit Card Batch Program** on the RES Server.
2. Go to the *Diagnostics* tab.
3. In the **CA/EDC Drivers list** box, select one of the TV's authorization or settlement drivers.
4. From the *Diagnostic Functions* window, highlight the **Test Settle Connection** option.
5. Click the **[Begin Test]** button to run the test.

If all is configured correctly, a **Connection Successful** message will display. If no connection is made, an error message will be shown.

In the event of a problem, Merchant Link support personnel should provide assistance in discussing the issue with their IT Group.

Configuring Internet Connectivity

The following are considerations when configuring a system to use Internet Connectivity as the communications channel.

1. Internet Configuration

Normal configuration of a site's Internet must be done prior to testing MICROS CA/EDC transactions.

2. Internet Connectivity

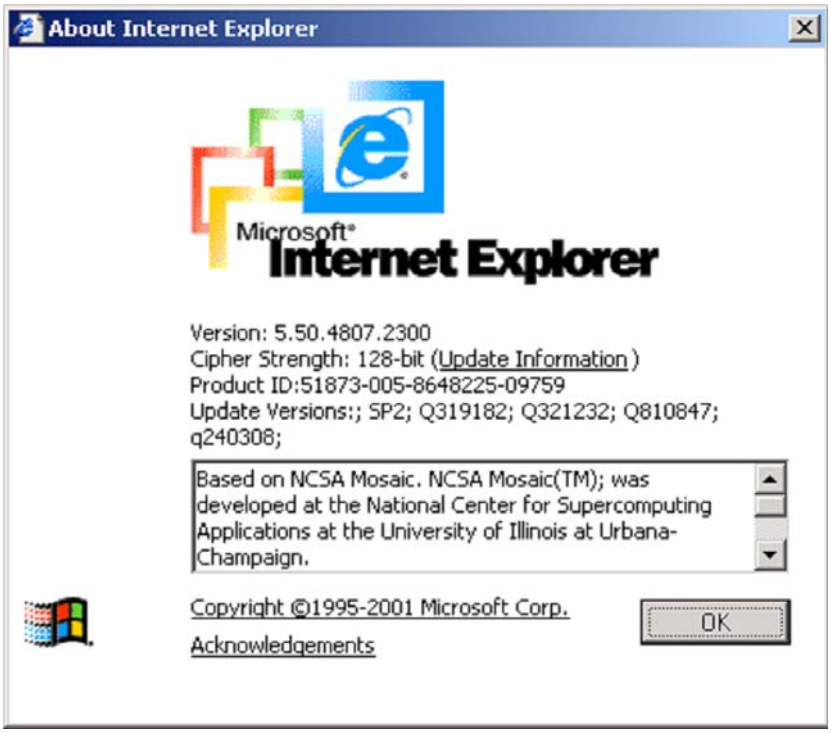
Merchants must have an ISP account that supports DSL, ISDN, or Cable modem connectivity. Connection to the Internet can also be established through a corporate LAN or WAN.

3. Internet Explorer Cipher Strength

In order for the 3700 POS CA/EDC software to properly make connections with **g1.merchantlink.com** and **g2.merchantlink.com**, the encryption strength (or Cipher Strength) of the MICROS RES Server must be 128-bit. The Cipher strength on a given server can be easily checked as follows:

1. Open Internet Explorer
2. Click on the **Help** menu.

3. Select the **About Internet Explorer** option. The following window will display:



The second line is the Cipher Strength. If that is anything less than 128-bit, the server will need to be updated. The specifics on what is needed for the update is dependent upon the RES Server's Operating System and/or Internet Explorer version. The URL for the Microsoft High Encryption Pack update page is:

http://www.microsoft.com/windows/ie/downloads/recommended/128bit/default.asp

4. Test Internet Connectivity

The site must be able to connect to ML's siteNET gateway through port 8443. To create a successful round trip test to the siteNET Gateway, open Internet Explorer on the RES Server and attempt to access the following URL from the browser:

https://g1.merchantlink.com:8443/test.cgi

This does an HTTPS GET request to the siteNET Gateway. Internet Explorer responds with a File Download request.

If the GET request makes it to siteNET, a plain text message of *cgi is working* is sent back. This response is necessary before continuing with the CA/EDC installation.

If a problem is encountered, and you do not receive the *cgi is working* message, one of the following issues may be responsible:

- Something is blocking the connection. Check the firewall settings.
- The site's network configuration is not resolving the URL correctly.

Should either of these errors occur, a trained network person may be required to configure the site's network for access to the siteNET gateway.

5. Host and Backup Host Configuration

To process via a high-speed internet connection, the site must be able to connect to ML's siteNET gateway through port 8443. This requires configuring the following fields on the *System* tab (*POS Configurator* | *Devices* | *CA/EDC Drivers*) for both the authorization and settlement drivers:

- **Host IP Address: Port** — g1.merchantlink.com:8443
- **Backup IP Address: Port** — g2.merchantlink.com:8443

6. Test Internet Connectivity via Credit Card Utility

If a browser is not available on the RES Server, use the test connection tool in the MICROS Credit Card Batch Utility.

This can be done as follows:

1. Open the **Credit Card Batch** Program on the RES Server.
2. Go to the *Diagnostics* tab.
3. In the **CA/EDC Drivers list** box, select one of the TV's authorization or settlement drivers.
4. From the *Diagnostic Functions* window, highlight the **Test Settle Connection** option.
5. Click the **[Begin Test]** button to run the test.

If all is configured correctly, a **Connection Successful** message will display. If no connection is made, an error message will be shown. Problems related to the Internet or ISP will require further investigation from the Merchants ISP. Merchant Link support personnel should provide assistance in discussing these issues with the ISP.

7. Fallback Configuration

The TV has a built-in feature to support failover or "fallback" capability for authorizations using either TCP/IP or Internet Connectivity. This feature enables the driver to automatically switch from a TCP/IP protocol to dial-up if the connection to the ML fails. In other words, fallback is initiated when the MICROS 3700 POS cannot connect to the credit card host.

Fallback is **not** initiated if the POS makes the connection but then error out (i.e., the connection is lost). In this case, the user receives an error and can try the transaction again. If the system consistently connects and then errors out, MICROS recommends the following:

1. Place a call to your support desk.
2. Change the **Communication Channel** option to Dial-up (0) until the situation is resolved.

For this functionality to work, a modem must be installed on the RES Server. The device number and network phone numbers must also be entered into the driver configuration.

As a first step in setting up **Fallback** mode, MICROS recommends testing the TV with a communications channel configured for Dial-up (0). Once the system can process credit card transactions in this mode, the communications channel can be changed and the modem can be configured in *POS Configurator* | *Devices* | *CA/EDC Drivers*. This includes specifying the **Authorization** and **Backup Authorization Phone Numbers**.

8. Internet Security

The security and protection of the MICROS network, and the data and applications on that network, are solely and entirely the responsibility of the customer. A properly configured firewall is required for each site that uses a persistent connection to the Internet or any private internal network where there is a potential for unauthorized access to the MICROS network.

The customer is solely and entirely responsible for the security of the MICROS network, 3700 POS, and their data against unauthorized access and any damage and support costs incurred as a result of said access.

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Frequently Asked Questions

Why is reading the Credit Card Transfer Report so important?

Errors during transmission are not always rectified automatically. To ensure a smooth and effective operation, end-users should regularly perform credit card batch and transfer processes along with an audit of the MICROS system. Frequent audits allow the end-user to identify problems quickly and, if necessary, place a call to support to correct a batch with errors.

Audit procedures are generally done the next day. Information describing the 3700 POS Credit Card Process is provided below.

What is a credit card batch?

MICROS 3700 POS allows credit cards to be authorized throughout the day. This authorization process is done when a guest asks to pay his transaction with his credit card. The POS then stores that credit card information along with the transaction in the RES database.

At the end of the day, a process is run to combine all the credit card transactions into a batch. This groups all of these types of transactions into a single message that will be sent to the credit card host (during the transfer process). A batch report can also be run listing each individual credit card transaction, sorted by credit card type.

When a credit card batch is initiated (either through an end of night autosequence or manually using the Credit Card Batch Utility), the system takes all credit card transactions that occurred and combines them into batch files. Batches can be generated one of two ways:

1. One batch for all revenue centers (i.e, all transactions at the site).
2. One batch per revenue center

Batches can also be edited. MICROS allows any manually entered fields to be edited.

- Credit card number
- Expiration date

Once a batch is created, the site needs to transfer the batch. Typically, this is done once a day as part of the end-of-night procedures. The transfer process takes the batch created and sends it to the credit card host for processing.

MICROS supports two types of processing — Terminal-based and Host-based. The processing type is determined by the credit card driver selected.

Terminal-based processing requires that the entire batch be successful for the batch to be closed. Most of the 3700 POS drivers support terminal-based processing. The Transaction Vault Credit Card driver uses this type.

Host-based processing requires each transaction to be successful. This means a batch could contain a single card that did not transfer to the credit card host. Once this transaction is adjusted, the batch could be re-sent to the host.

Transfer Status Report

The 3700 POS includes a Transfer Status Report, a one-page, easy-to-read summary for the end-user. The report shows each batch that was transferred and whether or not it was successful.

The Transfer Status Report should be added to the End-of-Night process and the site should be trained to read the report on a daily basis. Users can then call for support if an error condition appears.

IT IS IMPORTANT THAT A SITE READ THIS REPORT AFTER EACH TRANSFER. A BATCH MAY NOT PROCESS FOR SEVERAL REASONS SOME OF WHICH REQUIRE SUPPORT TO INTERVENE. IF THESE BATCHES ARE LEFT UNATTENDED, THE FOLLOWING ISSUES MAY ARISE:

1. A batch may never be processed which means the merchant may never receive the funds for those transactions.
2. A duplicate batch may be processed causing the customer to be charged twice.

How can a duplicate batch occur?

Duplicates occur when the system sends a batch to the credit card host and the host send back a response that does not makes it all the way to the 3700 POS. When this happens, the POS will send the message a second time.

Please note that credit card hosts may have rules in place to catch a second (duplicate) transmission of the batch, using criteria such as transaction amount or card numbers. These rules provide a temporary window for the user to rectify the problem before the batch is submitted again. *The resubmission is not dependent on action by the end-user.* Eventually, if the 3700 POS continues to send the batch, a duplicate will be generated.

To correct this problem, MICROS has added enhancements to the Transaction Vault Debit Card Driver (CaTVD) for the prevention of duplicate batches.

ReadMe First
V. 4.13.0.2468

This section contains a comprehensive guide to the new features, enhancements, and revisions included in the Version 4.13 release of the Transaction Vault Driver.

In This Section...

What's New

A new feature is defined as one that provides capabilities that were not available in previous versions of the application.

New Features Summarized

There are no new features included in this release.

What's Enhanced

An enhancement is defined as a change made to improve or extend the current functionality. To qualify as an enhancement, the change must satisfy the following criteria:

- The basic feature or functionality already exists in the previous release of the software.
- The change adds to or extends the current process. This differs from a revision (i.e., a bug fix) which corrects a problem not caught in previous versions.

Enhancements Summarized

There are no enhancements included in this release.

What's Revised

A revision is defined as a correction made to any existing form, feature, or function currently resident in the 3700 POS software. To qualify as a revision, the change must satisfy the following criteria:

- The basic form, feature, or functionality must be a part of the previous version of the software.
- The change must replace or repair the current item or remove it from the application.

Revisions Summarized

The following table summarizes the revisions included in this version:

Feature	CR ID/ SCR #	Page
Credit Card Service Could Fail To Start	N/A/ 39916	47

Revisions Detailed

Credit Card Service Could Fail To Start

CR ID #: N/A

SCR #: 39916

Previously, when the Credit Card Services (CCS) was being started, which loads the drivers; the driver initialization process could fail. This resulted in CCS hanging in the Windows Services with a status of 'Starting'. This has been corrected.

ReadMe First
V. 4.11.21.2418

This section contains a comprehensive guide to the new features, enhancements, and revisions included in the Version 4.11 release of the Transaction Vault Driver.

In This Section...

What's New

A new feature is defined as one that provides capabilities that were not available in previous versions of the application.

New Features Summarized

There are no new features included in this release.

What's Enhanced

An enhancement is defined as a change made to improve or extend the current functionality. To qualify as an enhancement, the change must satisfy the following criteria:

- The basic feature or functionality already exists in the previous release of the software.
- The change adds to or extends the current process. This differs from a revision (i.e., a bug fix) which corrects a problem not caught in previous versions.

Enhancements Summarized

The following table summarizes the enhancements included in this version:

Feature	CR ID/ SCR #	Page
Open SSL Libraries have been Updated	N/A/ 39271	51
McrsOpenSSLHelper.dll Included in the Install	N/A/ 39271	51

Enhancements Detailed

Open SSL Libraries have been Updated

CR ID #: N/A

SCR #: 39271

With this release, the Secure Sockets Layer (SSL) Libraries (libeay32.dll and ssleay32.dll), which are when Communication Channel 2 (Internet) is enabled, have been updated.

McrsOpenSSLHelper.dll Included in the Install

CR ID #: N/A

SCR #: 39271

With this release, the McrsOpenSSLHelper.dll has been added to the install. This dll will allow two or more drivers that use the Open SSL format to run on the same system simultaneously.

What's Revised

A revision is defined as a correction made to any existing form, feature, or function currently resident in the 3700 POS software. To qualify as a revision, the change must satisfy the following criteria:

- The basic form, feature, or functionality must be a part of the previous version of the software.
- The change must replace or repair the current item or remove it from the application.

Revisions Summarized

There are no revisions included in this release.

ReadMe First
V. 4.8.20.2196

This section contains a comprehensive guide to the new features, enhancements, and revisions included in the Version 4.8 release of the Transaction Vault Driver.

In This Section...

What's New

A new feature is defined as one that provides capabilities that were not available in previous versions of the application.

New Features Summarized

There are no new features included in this release.

What's Enhanced

An enhancement is defined as a change made to improve or extend the current functionality. To qualify as an enhancement, the change must satisfy the following criteria:

- The basic feature or functionality already exists in the previous release of the software.
- The change adds to or extends the current process. This differs from a revision (i.e., a bug fix) which corrects a problem not caught in previous versions.

Enhancements Summarized

The following table summarizes the enhancements included in this version:

Feature	CR ID/ SCR #	Page
Voucher Format Enhanced for Declined Transactions	N/A/ 36453	56

Enhancements Detailed

Voucher Format Enhanced for Declined Transactions

CR ID #: N/A

SCR #: 36462

With this release, the Debit Voucher now prints '`HOST DECLINED`' just below the 'Host Date' line when a debit transaction is declined.

What's Revised

A revision is defined as a correction made to any existing form, feature, or function currently resident in the 3700 POS software. To qualify as a revision, the change must satisfy the following criteria:

- The basic form, feature, or functionality must be a part of the previous version of the software.
- The change must replace or repair the current item or remove it from the application.

Revisions Summarized

The following table summarizes the revisions included in this version:

Feature	CR ID/ SCR #	Page
CaTVDA Would Fail When a PCWS was Offline and Two Debits were Attempted	N/A/ 37032	58
Settlement Records for Debit Refunds were Incorrect	N/A/ 36453	58

Revisions Detailed

CaTVDA Would Fail When a PCWS was Offline and Two Debits were Attempted

CR ID #: N/A

SCR #: 37032

Previously, a Debit Authorization could fail with the message 'Unsupported Response From CA Driver' due to an issue with the Credit Card Server (CCS) taking more than the expected five seconds to return an acknowledgement to the driver. This problem only occurred when attempting a debit transaction while having a PCWS down.

If a node had recently been rendered offline, CCS would be delayed in sending status updates to other nodes because it was spending time trying to send an update to an offline node. This has been corrected.

Settlement Records for Debit Refunds were Incorrect

CR ID #: N/A

SCR #: 36453

Previously, when formatting a debit refund, the settlement driver would make the assumption that there was no contact with the driver at authorization. Values such as the authorization code would not be returned as part of the debit refund authorization, and were not included with the refund settlement record.

This has been corrected. The following fields in the settlement detail record now contain the values returned in the refund authorization response:

- Returned ACI
- Authorization source
- Response code
- Approval code
- AVS result code
- Authorized amount