

Comtrex/PaymentSense Integration

Background

Prior to October of 2020 there was a single released integration between Comtrex and PaymentSense, the table service version (Pay At Table – PAT). The software release in October of 2020 continues to support the table service integration but also allows for a counter service payment methodology, where there is a one-to-one relationship between an Ingenico payment terminal and a point of sale terminal. This will be referred to herein as the counter service version (Pay At Counter - PAC).

Comtrex initially began a counter service payment integration using the methodology available from PaymentSense in 2014. There was an incompatibility of software and the counter service integration was postponed. Recently PaymentSense has released both a Websocket API and a Rest API for the counter service payment methodology. The most efficient integration for the counter service version is the Rest API and that is the chosen methodology. The table service integration utilizes the Websocket API.

PaymentSense – Table Service (PAT)

Overview

NOTE: In August of 2022, development was completed in support of the DOJO A920 terminal with the PAT functionality with PaymentSense. In addition, support was added to respond to a “Print Receipt” request from the PaymentSense API using the 24-column printer on the DOJO terminal. This development resulted in a new version of the Comtrex service PSCloudInterfaceService in addition to new versions of POS2100.exe and PrintCheck.dll. All functionality described herein for the Verifone terminal is applicable to the DOJO with the addition of the print receipt functionality. References to Verifone should be read as Verifone and/or DOJO.

This is a payment application, similar in function to Commidea and DataCash. In fact, it was developed as an alternative to Commidea. This interface is exclusively for table service merchants. It uses a custom, remote handheld terminal from Verifone to accept payment directly from the customer who provides a credit card to the server.

A new release of the PaymentSense interface software in October of 2018 replaced the original 2015 software, in response to a change in interface methodology dictated by PaymentSense. This new methodology replaced the prior service running on the POS Server (the PSConnectInterfaceService) with a new service (the PSCloudInterfaceService). PaymentSense created a Websocket API for their PAT solution to replace the deprecated ActiveX Com interface. Both the Comtrex PSCloudInterfaceService and the Verifone terminals actually communicate with the PaymentSense Cloud software and not with each other.

The interface is custom and unique to PaymentSense. There is a service constantly running on the POS Server Terminal/PC. Payment is initiated on a Verifone terminal when the server asks for a list of open checks or the open check at a particular table. The service responds to the Verifone by retrieving the

open guest list from the POS Server. When an individual guest check is selected using the Verifone terminal, a request to lock the check is sent to the service. The service then places a lock on the guest check so that it cannot be retrieved by any other device.

Payment information, credit card type and amount accepted is entered on the Verifone until the server indicates entry is complete. The amount(s) is/are returned to the service (in an array if there have been multiple payments entered) which places the payment information on the guest check. The Verifone sends a release lock command and then the service closes the check if payment has been made in full or leaves the check in the system if payment in full has not yet been made.

No POS operator/server intervention is necessary in order to close a fully paid check. Since the point-of-sale is totally unaware of any credit card information, the interface is therefore out-of-scope for PCI compliance purposes.

In the table service version, there is no credit card finalize button on the point of sale terminal. All the processing is accomplished by the PSCloudInterfaceService itself. The POS application program is essentially unaware that payment is being made or that the guest check is being closed, since the service performs all these functions.

Programming

There is no programming, either by terminal or by system, required for the table service version of the PaymentSense integration. All the interaction is between the Verifone terminal software and the service which handles all interaction.

In prior implementation of counter service integration, there was an entry in POS System Options – Credit Card Options on the General Tab to select PaymentSense as the Card Interface Processor. This is not required for the table service version. The Card Interface Processor selection is totally irrelevant for the table service version of the PaymentSense integration to function.

NOTE: The software is interacting with a service and the path G: \ is not valid for a service since the service is initiated prior to the path being established. Consequently, in Programming-PrinterConfiguration-TerminalPrintOptions on the Output tab, the path must be set to c:\icom\POS2100\Remote for Access installations.

Installation

There are instructions, along with a link, on the web for Comtrex personnel to install the necessary software to enable the PaymentSense table service integration. The two implementations, PAT and PAC, for PaymentSense are totally separate. There are no interdependencies and both may operate in the same location. The installation instructions for the table service integration may be found at:

<http://howitworks.comtrex.com/PaymentSenseCloud/ServiceInstallation.htm>

Miscellaneous

If a report is requested from a Verifone terminal, it is sent to the PS Cloud Server and then sent to PSCloudInterfaceService. The service stores the report(s) in a folder on the POS Server, C:\Program Files (x86)\Comtrex Systems\PSCloudInterfaceService\Reports in a day of the month encoded text file. For example, reports taken on September 25th would be in the text file PSReports25.txt. Obviously, the reports are overwritten each month. These reports may be of diagnostic value to PaymentSense.

NOTE: As documented in the howitworks site, the path for reports and log files has changed with the DOJO implementation. The path for log files, reports and printing support files is now C:\ProgramData\ComtrexSystems\PSCloudInterfaceService.

PaymentSense – Counter Service (PAC)

Overview

This integration is similar in operation to the Datacap emv integration in the U.S. in that there is a payment terminal, in this case an Ingenico iWL200 Series, with which a POS terminal interacts. There is a one-to-one relationship between the POS terminal and the payment terminal. However, unlike the Datacap emv implementation, there is no direct connection between the Ingenico iWL200 Series terminal and the POS terminal. The POS software, using parameters stored in the database, interacts with a PaymentSense Cloud Server. The terminal identifier (TID) of the iWL200 Series is part of the communication protocol, so like the table service integration, all messages are passed through the PaymentSense Cloud Server.

BackOffice Programming – POS Terminal Options – PaymentSense

A new selection has been added under POS Terminal Options for PAC with PaymentSense. Entries should be made for each terminal which will be associated with a PaymentSense iWL200 Series terminal. NOTE: This section applies exclusively to the iWL200 Ingenico terminal.

The screenshot displays the 'Programming - [PaymentSense]' application window. The interface includes a menu bar (File, Staff, Sales, Backoffice, Reports, Configure, Inventory, Accounts, Window, Help) and a left-hand navigation pane with 'All Forms' and 'Forms' sections. The 'Forms' section is expanded to 'POS Terminal Options', which contains sub-items like Posting Configuration, Transaction Options, IO Devices, Sales Types / Output, Message Prompts, Desktop Options, Auto Shifts, Miscellaneous, and PaymentSense. The main area shows a table with columns 'Terminal #' and 'Terminal Name', containing one entry: '1' and 'jeffrice2'. To the right of the table is a configuration form with the following fields:

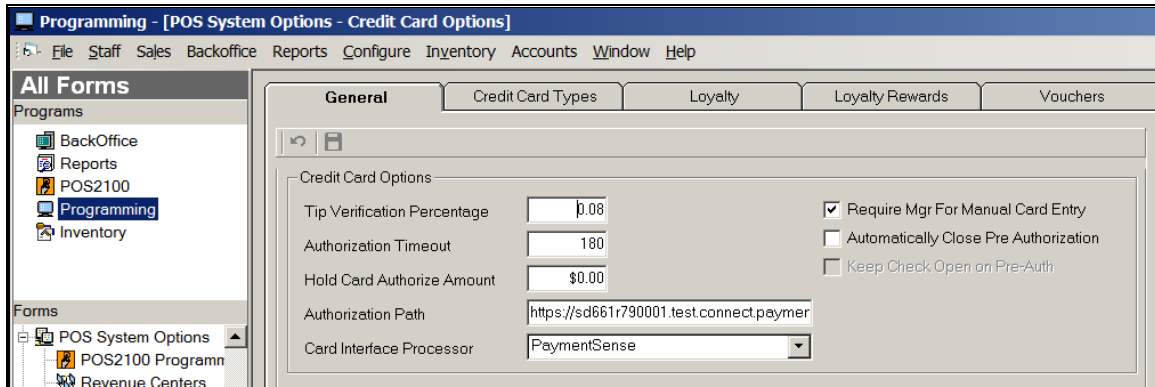
Terminal Name	jeffrice2
Terminal ID	22164991
API Key	cf44a7d6-4d29-4b43-a184-4d4e64d13afd
Installer ID	AD661R79
Currency Code	GBP
User Name	Comtrex
Software House ID	SD661R79

- **Terminal ID.** This identifies the iWL200 Series terminal associated with this POS terminal. Referred to by PaymentSense as the TID.
- **API Key.** This will be provided by PaymentSense. It is a system selection and will be the same for all terminals.
- **Installer ID.** This will be provided by PaymentSense. It is a system selection and will be the same for all terminals.
- **Currency Code.** Should be GBP for all U.K. installations. It is a system selection and will be the same for all terminals.
- **User Name.** This is fixed for Comtrex. It is not programmable and is shown only for completeness.

- **Software House ID.** This is fixed for Comtrex. It is not programmable and is shown only for completeness.

BackOffice Programming – POS System Options – Credit Card Options – General

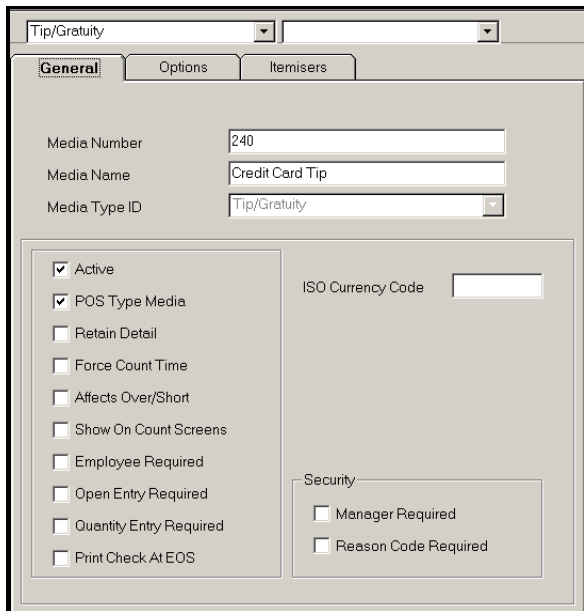
These sections should be programmed in the sequence documented herein. NOTE: This section applies exclusively to the iWL200 Ingenico terminal.



- **Authorization Path.** This identifies URL with which the POS terminal and the iWL200 Series terminal communicate.
- **Card Interface Processor.** This identifies PaymentSense. It enables the POS software to use PaymentSense protocol and use the text, under Credit Card Types, which is sent by PaymentSense to identify the credit card used by the patron.

BackOffice Programming – Media Definition Programming – Tip/Gratuity

A tip may be entered by the patron on the iWL200 Series terminal. For proper balancing, a Tip/Gratuity media should be created which will be linked to all credit card types sent by PaymentSense.



Tip/Gratuity

General Options Itemisers

Amount / Percent

Extraction Percentage

Dollar Amount Entry

Manual Override

Amount Required

Apply Tip on Discounted Amount

Calculate on Amount Plus Tax

Itemizer Calculation Type

Tip/Gratuity

General Options Itemisers

Use itemizer

VAT

Service Charge

Itemizer 3

Itemizer 4

Food

Drink

Tobacco

Miscellaneous

Itemizer 9

Itemizer 10

Itemizer 11

Itemizer 12

Itemizer 13

Itemizer 14

Itemizer 15

Itemizer 16

Affect Itemizer

VAT

Service Charge

Itemizer 3

Itemizer 4

Food

Drink

Tobacco

Miscellaneous

Itemizer 9

Itemizer 10

Itemizer 11

Itemizer 12

Itemizer 13

Itemizer 14

Itemizer 15

Itemizer 16

BackOffice Programming – Media Definition Programming – Finalize Media – Credit Cards

The POS can segregate up to eight (8) different credit card types, with the eights being a “catch all” as either “Credit Cards” or “Other Credit Cards”. Except for the Media Name, all credit card finalize media should be identically programmed.

It is imperative that the Finalize Media “Other Credit Cards” be created and properly linked, as shown in the section following this.

The screenshot shows the 'Finalize Media' configuration window with the 'General' tab selected. At the top, there are two dropdown menus: 'Finalize Media' and 'ManagerPay'. Below the tabs, the following fields are visible:

- Media Number: 37
- Media Name: Credit Cards
- Media Type ID: Finalize Media

On the left side, there is a list of checkboxes:

- Active
- POS Type Media
- Retain Detail
- Force Count Time
- Affects Over/Short
- Show On Count Screens
- Employee Required
- Open Entry Required
- Quantity Entry Required
- Print Check At EOS

On the right side, there is a 'T Record Code' field and a 'Security' section with two checkboxes:

- Manager Required
- Reason Code Required

The screenshot shows the 'Finalize Media' configuration window with the 'Options' tab selected. The following fields and checkboxes are visible:

- Tip Media ID: Credit Card Tip
- Change Media: Cash
- Minimum Entry: \$0.00
- Maximum Entry: \$0.00
- Drawer # If Override: 0
- Conversion to £: 1
- # of Check Reprints: 0

On the right side, there is a list of checkboxes:

- Walkout Type
- RA/PO Allowed
- Over Tender Allowed
- Amount Tender Required
- Open Drawer
- Change to Tips
- Suppress Suggest Tender
- Display Split
- mPayType
- iDriveThru Payment
- PayPal Type
- LevelUp Type
- Clutch Type
- GiftPro Type
- Deposit Type

Finalize Media | ManagerPay

General | Options | **Authorization**

Merchant Number: []

Credit Card Authorization Active

Prompt for Card

Prompt for Authorization Number

Verify Expiration Date

Gift Card Type

Same Number as Loyalty

Posting Printer Group: No

Charge Posting Text: []

Enable Charge Posting

Net Charge Posting Total

Account Number Required

Override Account# Validation

Print Voucher

Amount For No Signature On Voucher: \$0.00

Apply Partial Credit

BackOffice Programming – POS System Options – Credit Card Options – Credit Card Types

The only Finalize Media which can be selected on the screen below are ones which have the flag “Credit Card Authorization Active” set as true. That is why it is important to follow the programming as outlined herein.

Programming - [POS System Options - Credit Card Options]

File Staff Sales Backoffice Reports Configure Inventory Accounts Window Help

All Forms

Programs

- BackOffice
- Reports
- POS2100
- Programming**
- Inventory

Forms

- POS System Options
- POS2100 Programm
- Revenue Centers
- Back Office Software
- Day Parts
- Shift Definitions
- Credit Card Options**

General | **Credit Card Types** | Loyalty | Loyalty Rewards | Vouchers

Type	Credit Card Name
0	OTHER
1	AMEX
2	M/C
3	VISA
4	DCVR
5	DCLB
6	JCB
7	MAESTRO

Credit Card Type: [0]

Credit Card Name: [OTHER]

Finalize Media: [Credit Cards]

Voucher Print Amount: [\$0.00]

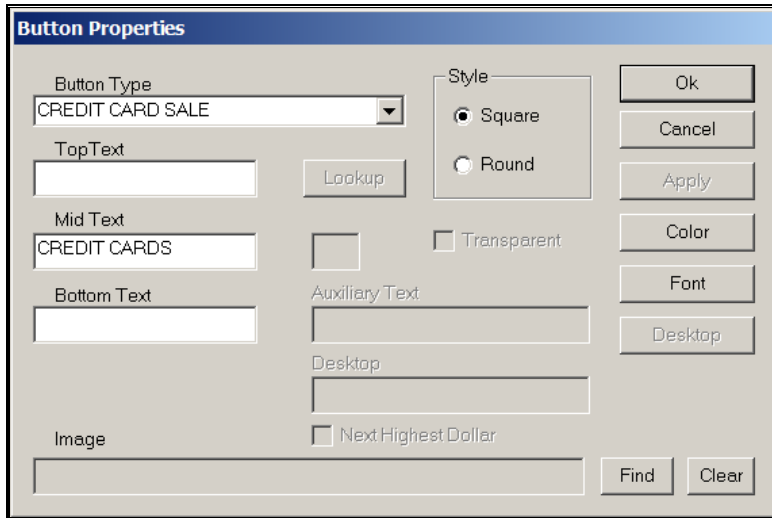
For each Credit Card listed on the left under “Credit Card Name”, select the appropriate Finalize Media. The Voucher Print Amount is not active with PaymentSense. If the merchant accepts cards other than those listed, they will be associated with “Other Credit Cards”, shown above as simply “Credit Cards”.

POS Programming and Operation

POS Programming – Credit Card Sale Button

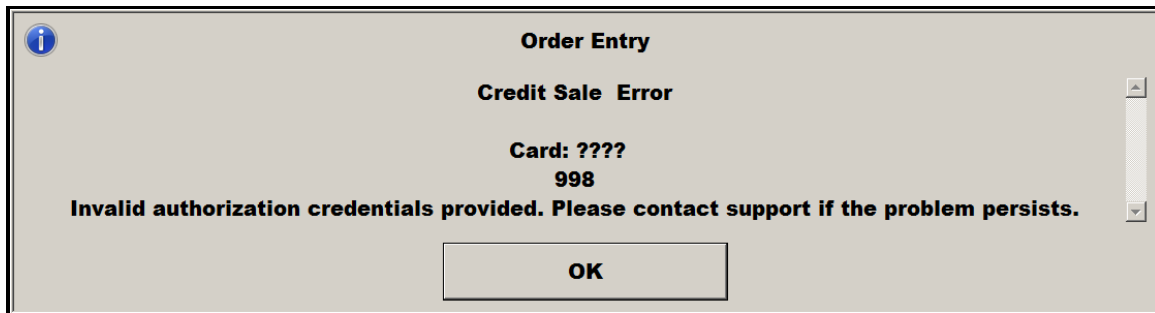
The only POS programming required is to place a Credit Card Sale button on a Sales Desktop. Do not use any of the credit card Finalize Media on the Sales Desktop. The card type will be identified when inserted/swiped on the iWL200 Series terminal. The interface will return appropriate text for each credit

card type and the POS2100 will use the programming under Credit Card Types to identify the appropriate Finalize Media.



Point of Sale Operation – Faulty Programming

If the Terminal ID is not properly entered, then the display below will appear. If this appears, check all programming and, if it appears correct, contact PaymentSense. This should never occur once an installation has gone live.



Point of Sale Operation – Payment Process

At payment time, the POS Operator will use the Credit Card Sale button to start the payment process. The entry methodology is determined by the programming of the Finalize Media “Other Credit Cards”. If you wish to present the amount and allow the operator to enter an amount more or less than the amount due, check the flag “Amount Tender Required” in Finalize Media programming. Even if this flag is not set, the POS Operator can enter an amount first, then depress the Credit Card Sale button.

The iWL200 Series terminal will prompt the patron to enter a tip or not. Therefore, it probably makes sense to not set the flag “Over Tender Allowed” or the related flag, “Change To Tips”.

With the flags set as noted above, the POS Operator will touch the Credit Card Sale button and be prompted as:

Total Due	\$11.90	Enter Amount Credit Cards		
New Due	\$0.00	\$11.90		
\$12.00		7	8	9
\$5.00		4	5	6
\$10.00		1	2	3
\$20.00		0	00	.
\$50.00		CLEAR		ENTER

Touch Enter and the screen will show as:

TRANSACTION_STARTED

At the same time, the display of the iWL200 Series terminal will be prompting the patron to “Add Gratuity” with F1 for Yes and F2 for no. After the patron makes a selection and enters a tip if selected, the next screen prompts the patron to insert or swipe the card.

While the iWL200 Series terminal is displaying “Touch/Insert of Swipe Here”, the POS is displaying as:

PRESENT_CARD

If the patron does not comply with the directions after approximately thirty (30) seconds, the operation will timeout. Nothing will print or display on the iWL200 Series terminal. The POS will display as follows:



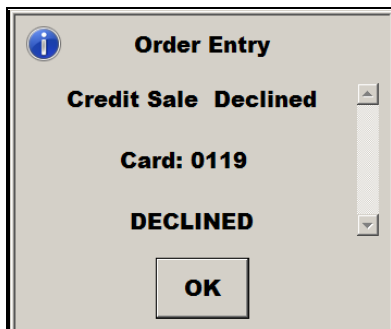
For most transactions, a PIN entry will be required. After requesting that the card be inserted or swiped, the iWL200 Series terminal will request a PIN entry. At this time, the POS will prompt as:

- PIN ENTRY

When the patron complies with all the directions on the iWL200 Series terminal in less than thirty (30) seconds, for successful credits, there will be a series of prompts on the iWL200 Series terminal which are also displayed on the POS terminal as:

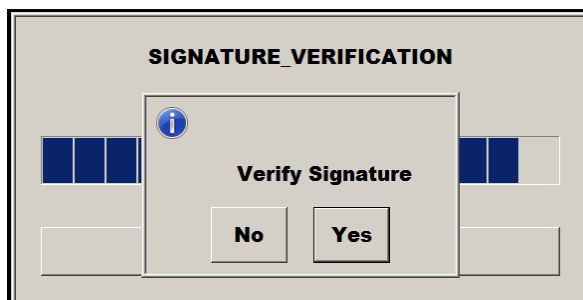
- PLEASE WAIT
- CONNECTING
- CONNECTION MADE
- APPROVED
- REMOVE CARD
- TRANSACTION FINISHED

For a declined transaction, the APPROVED prompt above is replaced with a DECLINED prompt. The REMOVE CARD prompt and TRANSACTION FINISHED prompts appear, then the POS prompts:



Point of Sale Operation – Payment Process – No PIN Entered

For cards with no PIN association, after the approval process, the iWL200 Series terminal prints all chits, assuming that the transaction is complete. However, the transaction is not yet complete, as the software will wait approximately thirty (30) seconds to allow the POS Operator to cancel the transaction if the signature does not match or is not acceptable. The POS will display as:



Touch Yes to complete the transaction. The POS will prompt:

- TRANSACTION FINISHED

If the POS Operator touches No (within a thirty (30) second window}, the transaction will be canceled and the POS will require that the payment process begin again. If the POS Operator delays more than this, the iWL200 Series terminal assumes the transaction is complete and ignores any further input from the POS.

Point of Sale Operation – Refund/Void Transaction

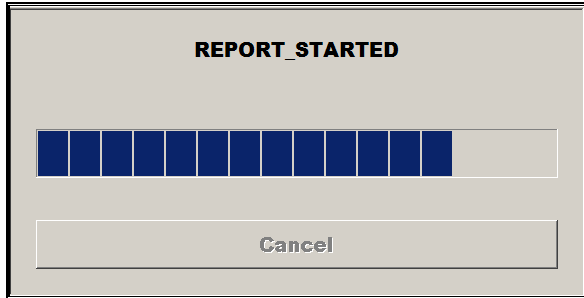
A transaction containing a payment processed through PaymentSense may not be refunded or voided using the Closed Check screen.

Point of Sale Operation – End of Day Report

PaymentSense requires that a report be taken from each iWL200 Series terminal at the end of each sales day. The report details activity through that particular terminal, not the system. The report is initiated from each POS terminal associated with an iWL200 Series terminal.

A button must be placed on the Manager screen. The new button is PS-PAC REPORT. The button will only be functional on a terminal with programming that associates an iWL200 Series terminal with the POS terminal.

When the report is initiated, the screen will show.



The report will print on the associated iWL200 Series terminal. It will also be stored on the G: drive of the POS Server in the folder g:\pos2100\PaymentSense\Reports\. The file name embeds the day of the month and the TID of the iWL200 Series terminal as: PACReports_23_22164991, where 23 is the day of the month and 22164991 is the TID of the iWL200 Series terminal.

If there are multiple iWL200 Series terminals in a location, the report must be taken on each POS terminal. The report should be taken at the end of day, at such time as there will be no further activity through PaymentSense. The printed report should be retained. If two reports are taken on the same day (not recommended) the text information from both reports for a particular POS terminal will be in the same file.

The display will show as below when the report is complete and stored on the POS Server.

