User Manual

IDTECH OPOS

For SmartPIN L100 device

USB-HID, RS232

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Rev. A

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Revision History

Revision Date	Description
05/06/2016	Initial Draft

Abbr

POS	Point of Service
UPOS	Unified POS
OPOS	OLE for Point of Service
COM	Component Object Model
OLE	Object Linking and Embedding
CO	Control Object
SO	Service Object
USB	Universal Serial Bus
PIN	Personal Identification Number
MSR	Magnetic Stripe Reader
R/W	Reader/Writer
SC	Smart Card
DUKPT	Derived Unique Key Per Transaction

Reference & Standard

1. Unified POS Retail Peripheral Architecture Version 1.13
2. International Standard for Implementation of Point Of Service Peripherals

Introduction

OPOS is an OLE implementation of UPOS, it featured in supplying a programming interface and architecture to make the user application easy to use the device, and make the user's application is independent from any specified device. This document describes the features and limitation of PINPad class,uSign class and MSR class for ID TECH SmartPIN L100 device. These OPOSes share the communication settings in the Windows Registry.
All OPOS are compatible with UPOS v1.13.

Registry Communication Settings

All OPOSes for SmartPIN L100 share the communication setting of serial port or USBHID, that is stored at Windows Registry:

For PINPad RS232 OPOS:

[HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\PINPad\SmartPIN_L100_RS232]

```
""=" PinPad_SO_ Common"
"SDK"="SmartPIN_L100_OPOS.dll"
"Interface"="RS232"
```

For PINPad USBHID OPOS:

[HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\PINPad\SmartPIN_L100_HID]

```
""=" PinPad_SO_ Common "
"SDK"="SmartPIN_L100_OPOS.dll"
"Interface"="HID"
```

PINPAD OPOS

Description

The documentation describes the properties, methods, and events of OPOS PINPad component for IDTECH SmartPIN L100. The component includes two parts: a Control Object running on the upper level, which is an ActiveX control, and a Service Control running on the lower level, which is an automation server. The properties, methods, and events are exposed by the Control Object. For example, when the Control Object is imported into your project as an ActiveX control, you will see all the properties, methods, and events.

Target Device

SmartPIN L100, interface: RS232 or USBHID.

Target Host System

Microsoft Windows 7 32bit,Vista 32bit, XP 32bit, 2000, 98.

Microsoft Windows 7 64bit,Vista 64bit.

Service Object and Control Object:

Service Object Version: 1.0.1.0 Dll File Version: 1.0.0

Control Object Version:1.13.001

Features

1. Support DUKPT PINPad system.

Installation

Just double click the setup program and follow the installation wizard. The device's USB driver should be installed, if the device is USB interface. Modify the default value of communication settings. The default settings is installed after setup. If the firmware's default value is changed, the settings must be modified correspondingly. Modify setting by Regedit.exe. See "Registry Communication Settings"

Properties, Methods and Events

This section describe methods, properties, and events.

Properties

Please see OPOS PINPad Spec if the detailed information is wanted.

Name	Type	Mutability	Supported?
AutoDisable	boolean	read-write	not support
CapCompareFirmwareVersion	boolean	read-only	not support
CapPowerReporting	int32	read-only	not support
CapStatisticsReporting	boolean	read-only	not support
CapUpdateFirmware	boolean	read-only	not support
CapUpdateStatistics	boolean	read-only	not support
CheckHealthText	string	read-only	support
Claimed	boolean	read-only	support
DataCount	int32	read-only	support
DataEventEnabled	boolean	read-write	support
DeviceEnabled	boolean	read-write	support
FreezeEvents	boolean	read-write	support
OutputID	int32	read-only	not support
PowerNotify	int32	read-write	not support
PowerState	int32	read-only	not support
State	int32	read-only	support
DeviceControlDescription	string	read-only	support
DeviceControlVersion	int32	read-only	support

DeviceServiceDescription	string	read-only	support
DeviceServiceVersion	int32	read-only	support
PhysicalDeviceDescription	string	read-only	support
PhysicalDeviceName	string	read-only	support
CapDisplay	int32	read-only	support
Capkeyboard	boolean	read-only	not support
CapLanguage	int32	read-only	support
CapMACCalculation	boolean	read-only	not support
CapTone	boolean	read-only	not support
AccountNumber	string	read-write	support
AdditionalSecurityinformation	string	read-only	support
Amount	currency	read-write	support
AvailableLanguagesList	string	read-only	support
AvailablePromptsList	string	read-only	support
EncryptedPIN	string	read-only	support
MaximumPINLength	int32	read-write	support
MinimumPINLength	int32	read-write	support
MerchantID	string	read-write	support
PINEntryEnabled	boolean	read-only	support
Prompt	int32	read-write	support
PromptLanguage	nls	read-write	support
TerminalID	string	read-write	support
Track1Data	binary	read-write	not support
Track2Data	binary	read-write	not support
Track3Data	binary	read-write	not support
Track4Data	binary	read-write	not support
TransactionType	string	read-write	support

Methods

Please see OPOS PINPad Spec if the detailed information is wanted.

Name	Supported?
Open	support
Close	support
Claim	support
Release	support
Checkhealth	support
clearInput	support
clearInputProperties	support
clearOutput	not support

compareFirmwareVersion	not support
resetStatistics	not support
retrivevStatistics	not support
updateFirmware	not support
updateStatistics	not support
beginEFTTransaction	support
CapMAC	not support
enablePINEntry	support
endEFTTransaction	support
updateKey	not support
verifyMAC	not support

Open (LPCTSTR DeviceName)

Parameter: DeviceName, the “SmartPIN_L100_RS232” for RS232 interface device, and the “SmartPIN_L100_HID” for USBHID interface device.

Return: OPOS_SUCCESS if every thing works, or OPOS error code (see UPOS Specification).

Events

These events are fired by the Service Object when it is necessary. The following functions are, in fact, the event-handlers that can be added into the applications. Then the applications can receive these events and do some processing accordingly. Please see OPOS PINPad Spec if the detailed information is wanted.

Name	Usage
DataEvent	support
ErrorEvent	support
DirectIOEvent	not support
OutputCompleteEvent	not support
StatusUpdateEvent	not support

Example in Visual C++ 6. 0

Create a Dialog based MFC application. And then click VC IDE menu “Project/Add to Project/Components and Controls…” to the OPOS PINPad ActiveX control to the project. The following code shows the simple example.

```
void CTestDlg::OnDataEventPinpad1(long Status)
{
    TRACE("PIN %s\n", m_pinpad.GetEncryptedPIN());
    TRACE("Security Information %s\n", m_pinpad.GetAdditionalSecurityInformation() );
```

```
	if (m_pinpad.EndEFTTransaction(1) != OPOS_SUCCESS) {
		// fail
		return;
	}
}

void CTestDlg::OnButton1()
{
	if (m_pinpad.Open("SmartPIN_L100_RS232 ") != OPOS_SUCCESS) {
		// "Fail to open pinpad"
		return ;
	}
	if ( m_pinpad.ClaimDevice(1000) != OPOS_SUCCESS) {
		// Fail to claim
		return ;
	}
	m_pinpad.SetDeviceEnabled(TRUE);
	if (m_pinpad.GetResultCode() != OPOS_SUCCESS) {
		// fail to claim.
		return;
	}
	m_pinpad.SetDataEventEnabled(TRUE);
	if (m_pinpad.GetResultCode() != OPOS_SUCCESS) {
		// fail to claim.
		return;
	}
	m_pinpad.SetAccountNumber("1234567890123456");
	if ( m_pinpad.GetResultCode() != OPOS_SUCCESS) {
		// fail to set account number
		return;
	}
	if (m_pinpad.BeginEFTTransaction("DUKPT", 1) != OPOS_SUCCESS)	{
		// fail
		return;
	}
	if (m_pinpad.EnablePINEntry() != OPOS_SUCCESS) {
		// fail
		return;
	}
}

void CTestDlg::OnButton2()
```

```
{
    // TODO: Add your control notification handler code here

    m_pinpad.Close();
}
```