



User's Guide

APG Cash Drawer OPOS Application Developer's Kit

Device Drivers for MCS Common Control Object OPOSCashDrawer.OCX Support

Version 3.10_CCO

May 2004





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Section 1: Introduction

The APG Cash Drawer OLE for POS (OPOS) Application Developer's Kit (ADK) V3.10_CCO Setup Application will install all the necessary components to develop OPOS applications compliant to UnifiedPOS (UPOS) Version 1.7 for APG Cash Drawer serial, parallel, and USB cash drawer devices. Open-device POS system applications are easily achieved through these drivers, which are based on the UPOS standardization for device API functionality.

This ADK installs and binds cash drawer service objects to the MCS Common Control Object Runtime Library v1.7.001 or previous. The MCS Common Control Object Runtime Library must be installed and configured before installing and configuring this APG OPOS ADK.

This ADK is not compatible with APG's vendor-specific control objects installed and deployed with APG OPOS ADK v2.00.01 or any other previous releases of the APG OPOS ADK.

Operating Environment:

The following are the system environment requirements for installing the APG Cash Drawer OPOS ADK.

Computer Hardware: IBM PC/AT or compatible.

Operating Systems: Windows 95, Windows 98, Windows ME, Windows NT 4.0, Windows 2000, and WindowsXP.

Supported Devices: APG Cash Drawers
APG Model 182 ParallelPRO™ Cash Drawer Interface
Multiple drawer support on one Centronix parallel port
APG Model 212A Smart SerialPRO® Cash Drawer Interface
Multiple drawer support on one RS-232 serial port
APG Model 484A SerialPRO® II Cash Drawer Interface
Single drawer support on one RS-232 serial port
APG Model 554 USBPro™II HID-Compatible Cash Drawer Interface
Multiple drawer support on the USB Bus

Notes: Legacy devices including the APG Models 139, 212DS, 219, 284, and 484 for RS-232 serial connection, the APG Model 354 for USB, and many other extension products are compatible with these drivers. APG Cash Drawer MultiPRO® and DirectPRO™ interfaces connect to a Point of Sale receipt printer. For OPOS functionality, refer to the appropriate printer manufacturers OPOS controls and driver sets.

Supported Communication Ports:

Serial COM ports 1 through 4 (COM1-COM4).
Parallel Ports 1 through 2 (LPT1-LPT2).
USB Ports 1 through 10.



Supported Languages: Any ActiveX-enabled development environment, including:
Microsoft Visual Basic 6.0 (or greater) and Visual C++ 6.0 (or greater).
Service Pack 4.0 (or greater) recommended.
Microsoft Visual FoxPro 6.0 (or greater)
Drivers are compatible in visual and programmatic development environments.

File Descriptions and Contents after ADK Installation:

1. This ADK requires that the MCS Common Control Object Runtime Library v1.7.001 or greater is installed and configured on the host PC prior to installation and configuration of this ADK – OPOSCashDrawer.OCX control object must be installed and available to this ADK.
2. APG OPOS Service Object:
 - APG Device Dynamic Link Libraries
3. APG Sample Application:
 - Visual Basic Project and Sample Applications
 - Visual C++ Project and Sample Applications
4. System Shared Files, installed in C:\WINDOWS\SYSTEM\ folder or C:\WINDOWS\SYSTEM32\ folder as appropriate for the operating system environment.
 - REGSVR32.EXE
 - MFC42D.DLL
 - MFCO42D.DLL
 - MSVCRTD.DLL

REGSVR32.EXE registers controls outside of an installation. However, the MCS Common Control Runtime Library (v1.7.001) performs registration during setup. Three DLLs are installed during setup of this ADK that are required to run the sample applications provided with this ADK.

Support Information:

Refer to the following links as appropriate:

Download the 1.7.001 MCS Common Control Object Runtime Library URL:

http://www.monroecs.com/oposccos_current.htm

CCO & UPOS documentation URL:

<http://www.monroecs.com/opos.htm>

UnifiedPOS 1.7 documentation URL:

<http://www.monroecs.com/unifiedpos.htm>



Section 2: Installation

The APG OPOS ADK Installation process automatically copies and installs all the files necessary to use the APG OPOS Application Developer's Kit Utility applications.

Prior to the Installation or Removal of the APG OPOS ADK, make sure that no other applications are running in order to prevent an unsuccessful operation.

Prior to installation of APG Cash Drawer OPOS ADK v3.10_CCO, remove all prior versions of the APG OPOS ADK. Using Control Panel on the PC, select Add/Remove programs and click on the currently installed (previous version) of the APG OPOS ADK. Be sure that the MCS Common Control Object Runtime Library is installed and configured on the host PC.

After ADK installation, the AOCUtility Application (APG OPOS Configuration Utility) is executed for immediate APG Cash Drawer device configuration and implementation.

Installation Procedure:

Download and unzip the drivers from the APG Cash Drawer website <http://www.apgcd.com> or insert the APG OPOS ADK Installation CD into the system CDROM drive. Click on the Setup.EXE file icon in the destination folder to launch the APG OPOS ADK Installation procedure.

The following is a step-by-step description of the Installation process:

1. The Installation process initializes by displaying the APG OPOS ADK logo and the installation wizard to prepare for the installation.
2. The message 'Checking the necessary system files, please wait...' will be displayed. The Installation process at this time will determine if the Installation is to proceed with a new install or modify, repair, or remove an existing install of the APG OPOS ADK.
3. The 'Welcome' message then appears as the installation process continues. Press the 'Next' button to continue. Note: At this point, or at any other point, the installation process may be canceled and the process will end with no files written to the PC.
4. The License Agreement is then displayed, please read this carefully, and if the terms of the agreement are fully accepted, press the 'Yes' button to continue or the 'No' button to cancel the installation. Note: Use the scroll bar to view the entire license agreement.
5. The company information is then displayed. The Installation will automatically populate the 'User Name' and 'Company Name' retrieved from the system registry. To accept these entries press the 'Next' button to continue, or manually change the desired entries before continuing.
6. The next screen displays the destination folder for the Installation to copy the required APG OPOS ADK files. This destination folder may be changed manually by entering the folder path or by using the 'Browse' button.



7. The Setup Type option is then displayed, and requires a choice of one of the three options in the button box option list:
 - Typical -
This Setup Type will include the maximum set of files – the required set to fully develop and execute OPOS compliant applications and all supplemental manuals and documents.
 - Compact -
This Setup Type will only include the minimum set of files to correctly develop and execute OPOS compliant applications.
 - Custom -
This Setup Type will enable the installer to choose what file sets or groups to install. If this option is selected, the following file groups may be selected: APG OPOS Controls, APG Setup Tutorials, OPOS Sample Applications, System Shared DLL Files and the OPOS APG & CPG Documentation Manuals. Please refer to this dialog for file descriptions and required file group sizes.
Once the Setup Type is selected, press the ‘Next’ button to continue.
8. The Select Program Folder is displayed to provide the location of where to add the Installation icons. This destination folder may be changed manually by entering the folder path or by using the ‘Browse’ button. Press the ‘Next’ button to continue.
9. The Install Device Listing will be displayed, showing the devices that are to be installed and supported. Press the ‘Next’ button to continue.
10. The Current Setting Information is displayed for confirmation. The items displayed are User Name, Company Name, Setup Type and Target Directory. If any item requires changing, press the ‘Back’ button to the dialog, to change the desired item. To accept, press the ‘Next’ button to continue.
11. The Start Copy Files is displayed, with the ‘Setting up files to copy...’ message indicating that the Installation is now copying and installing the select file groups. The percent of completion status bar is displayed. Once the 100% completed note is displayed, all files have then been successfully copied and installed on to the system.
12. The ‘Updating the system registry...’ message is displayed. The Installation is updating the system registry, adding the APG OPOS ServiceInfo and ServiceOPOS key entries in the OLEforRetail subkey. The device key, APG cash drawer device, and parameter information is not added at this time. See the APG OPOS Configuration Utility application information for details.
13. The ‘Registering OPOS Controls...’ message is displayed. The Installation is registering the APG OPOS Services. This registration is required to build and or execute any OPOS application utilizing the APG Cash Drawer devices.
14. The Finish dialog is then displayed, and the installation process is now successfully complete. For convenience, the AOCUtility.EXE application is then launched to perform the APG Cash Drawer device configuration required by any APG OPOS application.



Section 3: Modification or Removal of OPOS ADK

The APG Cash Drawer OPOS ADK Installation Application will automatically detect that an APG OPOS ADK is currently installed. If so, the current APG OPOS ADK version is then displayed at the top of the dialog.

Three options are displayed:

1) Modify:

This option will display the file group components to re-install. The file group options are identical to the 'Custom' Setup Type display (please refer to item 7, section 2).

2) Repair:

This option will re-install all of the Installation files, overwriting any previously installed files.

3) Remove:

This option will remove all of the Installation files for the APG OPOS ADK.

Note: The shared system DLL files defined in the 'Installation Components', item 3 on Page 4, are installed in the C:\WINDOWS\SYSTEM\ folder or C:\WINDOWS\SYSTEM32\ folder as appropriate for the operating system environment. These files will not be removed if the APG OPOS ADK is removed from the system.

Once the selected task has completed, the Finish dialog will be displayed. If the Remove option is selected, the 'Unregistering OPOS Controls...' message will be displayed, indicating that the APG OPOS Controls are being unregistered and removed from the ActiveX directory.



Section 4: Device Configuration, Testing, and Demonstration

This section explains the steps necessary to configure each of the APG Cash Drawer device types. Each cash drawer device must be configured in the AOCUtility program before controlling the cash drawer from an OPOS-compliant Point of Sale software application. The APG OPOS Configuration Utility application will configure the selected APG Cash Drawer device and update the system registry as required by the APG OPOS Control and Service Objects (ActiveX modules).

- Supported Devices: APG Cash Drawers
- APG Model 182 ParallelPRO™ Cash Drawer Interface
 - Multiple drawer support on one Centronix parallel port
 - APG Model 212A Smart SerialPRO® Cash Drawer Interface
 - Multiple drawer support on one RS-232 serial port
 - APG Model 484A SerialPRO® II Cash Drawer Interface
 - Single drawer support on one RS-232 serial port
 - APG Model 554 USBPro™II HID-Compatible Cash Drawer Interface
 - Multiple drawer support on the USB Bus

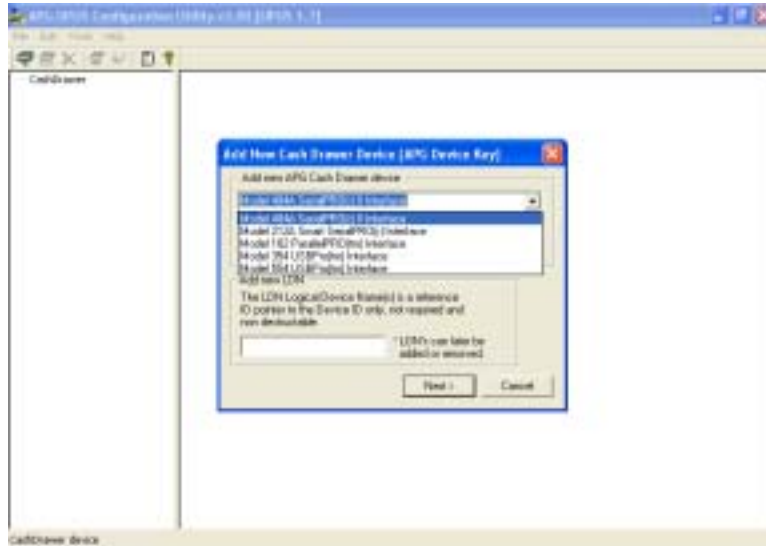
Note: Legacy devices including the APG Models 139, 212DS, 219, 284, and 484 for RS-232 serial connection, the APG Model 354 for USB, and many other extension products are compatible with these drivers. APG Cash Drawer MultiPRO® and DirectPRO™ interfaces connect to a Point of Sale receipt printer. For OPOS functionality, refer to the appropriate printer manufacturers OPOS controls and driver sets.

After installation is complete, the APG Cash Drawer OPOS Configuration Utility Application (AOCUtility.EXE) launches.

- The APG OPOS Configuration Utility Application contains configuration and setup parameters for each cash drawer device type (serial, parallel, and USB).
 - Each cash drawer device type will have an accompanied dialog with a description for the controls and parameter values.
1. Refer to the **Cash Drawer User's Guide** to complete the cash drawer configuration (i.e. dip switch or jumper settings) for the intended application.
 2. Configure the cash drawer per the User's Guide, to open and to report drawer open / closed status based upon, the selected parameters. For example, if using the Model 182, 212A, or 484A interface cash drawers, be sure the dipswitch configuration (on the bottom of the drawer) matches the intended application. If specifically using the Model 212A interface cash drawer, verify that the jumper headers on the circuit board inside the drawer are set properly for the intended drawer status and hardware handshaking requirements. Product User's Guides are available from APG's website at <http://www.apgcd.com>.



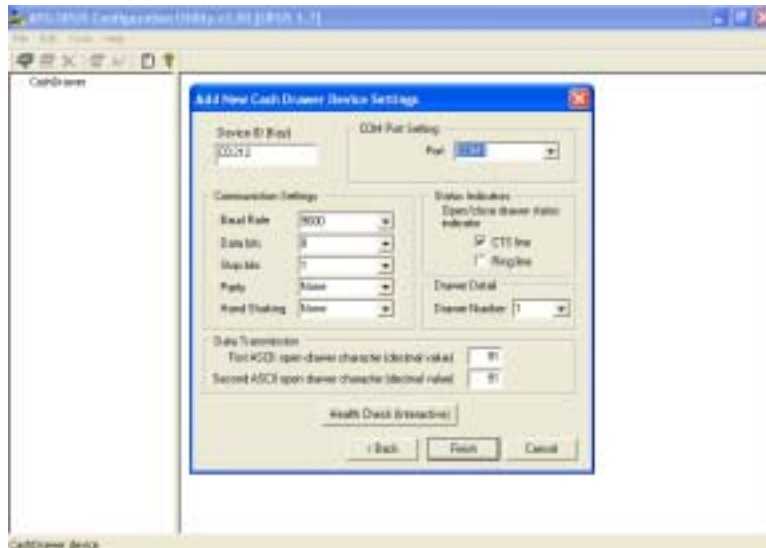
3. Launch the AOCUtility.EXE application. Click **Add New Cash Drawer Device** and select the appropriate cash drawer interface.



4. If desired, assign a **Logical Device Name**, or **LDN**. Note, LDN's may be assigned or modified at any time. To do so, Click **Add/Remove LDN**. One cash drawer may have one or more logical device names. Note: do not assign the same LDN to two different cash drawers. The **Logical Device Name Setting** dialog appears as:



5. Refer to the **Add New Cash Drawer Device Settings** dialog. Configure the communication parameters for the cash drawer device. If using either of the Model 182, 212A, or 484A cash drawer interfaces, define the desired ASCII Opening Character sequence to open the cash drawer, and define the cash drawer status-reporting configuration.



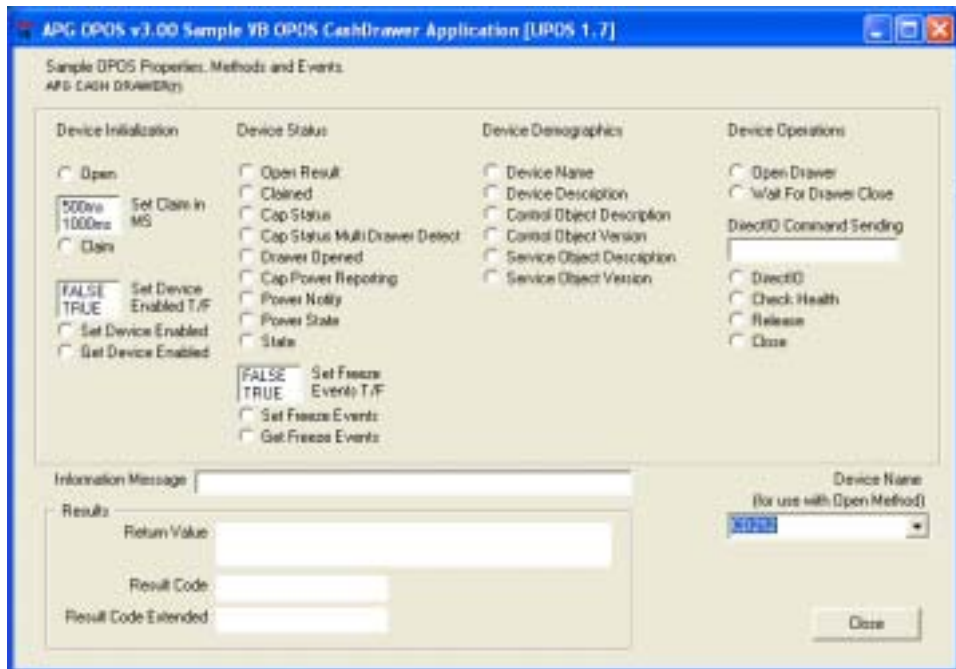
6. Repeat the process to configure additional cash drawers on the port, if applicable. Each cash drawer configured will be assigned a unique **Device Name** and must be assigned unique **Logical Device Name(s)** to be referenced by the OPOS-compliant Point of Sale application. Refer to the cash drawer interface User's Guide for information and recommendations on multiple cash drawer configuration and setup.
7. Perform the **Health Check (Interactive)** operation for each cash drawer configured. The health check operation requires the presence of the OPOSCashDrawer.OCX Common Control Object performs the OPOS-compliant operations to the System Registry to operate the cash drawer. This operation verifies the cash drawer opening and reporting functions.
8. Click Finish and close the AOCUtility application to Save Changes.

To change the configuration of a previously installed cash drawer device, launch AOCUtility and select the cash drawer interface product that has previously been configured on the PC. Click on **Modify Cash Drawer Device Settings** to modify its configuration.

To remove the configuration of a previously installed cash drawer device, launch AOCUtility and click **Remove Cash Drawer Device**. Select the cash drawer interface product that has previously been configured on the PC to remove its setup from the System Registry.



Visual Basic and Visual C++ Sample Applications are provided with the ADK. They are located in `\\...\OPOS\APG\Samples\VB Application\OPOSCDTest.EXE` with source code for Visual Basic environments and `\\...\OPOS\APG\Samples\VC Application\OPOSCDTest.EXE` with source code for Visual C++ environments. To test the cash drawer using OPOS-compliant event controls, launch the application and follow the sequence of steps outlined below (note: MCS CCO is required):



1. Select the Device Name of the Cash Drawer, in the lower right-hand corner of the dialog. Note: this application supports only the first cash drawer configured in a multiple cash drawer environment.
2. Under Device Initialization, click **Open**. Refer to Results frame for feedback - the following values should be found:

Return Value:	0
Result Code:	0
Result Code Extended:	0
3. Under Device Initialization, click **500mS**, then click **Claim**. Refer to Results frame for feedback - the following values should be found:

Return Value:	0
Result Code:	0
Result Code Extended:	0
4. Under Device Initialization, click **True**, then click **Set Device Enabled**. Refer to Results frame for feedback - the following values should be found:

Return Value:	(field is empty during this operation)
Result Code:	0



Result Code Extended: 0

5. Under Device Operations, click **Open Drawer**. The cash drawer will open. Refer to Results frame for feedback - the following values should be found:
 - Return Value: 0
 - Result Code: 0
 - Result Code Extended: 0

6. Cash drawer status, if configured by the ADK and inside the cash drawer, may be seen by clicking **Drawer Opened** under Device Status. Refer to Results frame for feedback - the following values should be found:
 - Return Value: True (if cash drawer is open and drawer status is enabled)
False (if cash drawer is closed and drawer status is enabled)
 - Result Code: 0
 - Result Code Extended: 0

7. To end the session, reverse the steps. Under Device Initialization, click **False**, then click **Set Device Enabled**. Refer to Results frame for feedback - the following values should be found:
 - Return Value: (field is empty during this operation)
 - Result Code: 0
 - Result Code Extended: 0

8. Under DirectIO Command Setting, click **Release**. Refer to Results frame for feedback. The following values should be found:
 - Return Value: 0
 - Result Code: 0
 - Result Code Extended: 0

9. Under DirectIO Command Setting, click **Close**. Refer to Results frame for feedback - the following values should be found:
 - Return Value: 0
 - Result Code: 0
 - Result Code Extended: 0

10. Exit the application.



Section 5: Application Developer's Toolkit

This section provides protocol references and sample code to apply the APG Cash Drawer OPOS ADK. Refer to the Application Programmer's Guide and Control Programmer's Guide for additional OPOS-specific information.

The Association for Retail Technology Standards of the National Retail Federation develops and manages the OLE for RetailPOS standards. A vast array of technical documentation and reference materials can be found at the ARTS Home Page: <http://www.nrf-arts.org/>

The sequence of steps to use a cash drawer device, as defined by the OPOS standard, is:

Open Device
Claim Device
Enable Device
Drawer Open
Wait for Drawer Close
Disable Device
Release Device
Close

Visual Basic Example:

This example assumes a USB Model 554 Interface Cash Drawer has been configured with CD554 as the Device Name. In a programmatic environment, upon an "Open Drawer" Event, the code might resemble:

```
Private Sub OpenDwr_Click()  
    ' Using ProgID in the Registry  
    ' GUID is OPOS.CashDrawer  
    Set X = CreateObject("OPOS.CashDrawer")  
    X.open "CD554"  
    X.Claim (1000)  
    X.DeviceEnabled = True  
    X.OpenDrawer  
    X.DeviceEnabled = False  
    X.Release  
    X.Close  
End Sub
```

In a visual programming environment, add the OPOS CashDrawer Control 1.7.001 [Public, By CRM/RCS-Dayton] control to the Components Toolbar and place the control on the form. Note: Do not select the APG CashDrawer Control, as it is not needed. In this example:



- The OPOS Common Cash Drawer control has been placed on the form and called *OPOSCashDrawer1*
- An “Open Drawer / No Sale” command button has been placed on the form and called *cmdOpenDwr*
- The cash drawer includes the capability of reporting open / closed status to the host.
- A Timer has been placed on the form to monitor drawer open / closed status every 200 mS and called *Timer1*
- A label has been placed on the form to report drawer status and called *lblDrawerStatus*
- A “Close/Exit” command button has been placed on the form to allow an orderly closing of the application and the relevant controls.

The Visual Basic code might resemble:

```
-----  
Private Sub cmdClose_Click()  
    OPOSCashDrawer1.DeviceEnabled = False  
    OPOSCashDrawer1.ReleaseDevice  
    OPOSCashDrawer1.Close  
    End  
End Sub  
-----  
Private Sub cmdOpenDwr_Click()  
    Dim IVal as Long  
    Dim ITimeOut as Long  
    Dim IBeepFreq as Long  
    Dim IBeepDuration as Long  
    Dim IBeepDelay as Long  
  
    OPOSCashDrawer1.OpenDrawer  
  
    OPOS.WaitForDrawerClose  
  
    lblDrawerStatus.Caption = “Waiting for drawer to close.”  
    lblDrawerStatus.Refresh  
  
    ITimeOut = 2500  
    IBeepFreq = 1000  
    IBeepDuration = 100  
    IBeepDelay = 500  
    IVal = OPOSCashDrawer1.WaitForDrawerClose(ITimeOut, IBeepFreq,  
        IBeepDuration, IBeepDelay)  
  
End Sub  
-----  
Private Sub Form_Load()  
    OPOSCashDrawer1.Open "CD554"  
    OPOSCashDrawer1.ClaimDevice (1000)
```



```
OPOSCashDrawer1.DeviceEnabled = True
End Sub
-----
Private Sub Timer1_Timer()
    If (OPOSCashDrawer1.DrawerOpened) Then
        lblDrawerStatus.Caption = "Cash Drawer is Open"
    Else
        lblDrawerStatus.Caption = "Cash Drawer is Closed"
    End If
End Sub
-----
```

Software Developer's Notes:

- For maximum flexibility, include a field within the utilities, configuration, or setup section where a user could change the Device Name reference for the cash drawer should the need arise. Doing so eliminates the needs to recompile the application for a new Device Name.



Section 6: OPOS Controls for Cash Drawer Device

Summary

Properties

<i>Common</i>	<i>Ver</i>	<i>Type</i>	<i>Access</i>	<i>May Use After</i>
AutoDisable	1.2	Boolean	R/W	<i>Not Supported</i>
BinaryConversion	1.2	Long	R/W	Open
CapPowerReporting	1.3	Long	R	Open
CheckHealthText	1.0	String	R	Open
Claimed	1.0	Boolean	R	Open
DataCount	1.2	Long	R	<i>Not Supported</i>
DataEventEnabled	1.0	Boolean	R/W	<i>Not Supported</i>
DeviceEnabled	1.0	Boolean	R/W	Open
FreezeEvents	1.0	Boolean	R/W	Open
OpenResult	1.5	Long	R	--
OutputID	1.0	Long	R	<i>Not Supported</i>
PowerNotify	1.3	Long	R/W	Open
PowerState	1.3	Long	R	Open
ResultCode	1.0	Long	R	--
ResultCodeExtended	1.0	Long	R	Open
State	1.0	Long	R	--
ControlObjectDescription	1.0	String	R	--
ControlObjectVersion	1.0	Long	R	--
ServiceObjectDescription	1.0	String	R	Open
ServiceObjectVersion	1.0	Long	R	Open
DeviceDescription	1.0	String	R	Open
DeviceName	1.0	String	R	Open
<i>Specific</i>	<i>Ver</i>	<i>Type</i>	<i>Access</i>	<i>May Use After</i>
CapStatus	1.0	Boolean	R	Open
CapStatusMultiDrawerDetect	1.5	Boolean	R	Open
DrawerOpened	1.0	Boolean	R	Open & Enable



Methods

<i>Common</i>	<i>Ver</i>	<i>May Use After</i>
Open	1.0	--
Close	1.0	Open
ClaimDevice	1.0	Open
ReleaseDevice	1.0	Open & Claim
CheckHealth	1.0	Open & Enable; <i>Note</i>
ClearInput	1.0	<i>Not Supported</i>
ClearOutput	1.0	<i>Not Supported</i>
DirectIO	1.0	Open
<i>Specific</i>		
OpenDrawer	1.0	Open & Enable; <i>Note</i>
WaitForDrawerClose	1.0	Open & Enable; <i>Note</i>

Note: Also requires that no other application has claimed the cash drawer.

Events

<i>Name</i>	<i>Ver</i>	<i>May Occur After</i>
DataEvent	1.0	<i>Not Supported</i>
DirectIOEvent	1.0	Open
ErrorEvent	1.0	<i>Not Supported</i>
OutputCompleteEvent	1.0	<i>Not Supported</i>
StatusUpdateEvent	1.0	Open & Enable



General Information

The Cash Drawer Control's OLE programmatic ID is "OPOS.CashDrawer".

Capabilities

The Cash Drawer Control has the following capability:

- Supports a command to "open" the cash drawer.

The cash drawer may have the following additional capability:

- **Drawer status reporting:** Can determine whether a particular drawer is open or closed in environments where the drawer is the only drawer accessible via a hardware port.
- **Drawer unique status reporting:** Can determine whether a particular drawer is open or closed in environments where more than one drawer is accessible via the same hardware port.

Device Sharing

The cash drawer is a sharable device. Its device sharing rules are:

- After opening and enabling the device, the application may access all properties and methods and will receive status update events.
- If more than one application has opened and enabled the device, all applications may access its properties and methods. Status update events are fired to all of the applications.
- If one application claims the cash drawer, then only that application may call the **OpenDrawer** and **WaitForDrawerClose** methods. This feature provides a degree of security, such that these methods may effectively be restricted to the main POS application if that application claims the device at startup.
- See the "Summary" table for precise usage prerequisites.



Properties

CapStatus Property

- Syntax** **BOOL CapStatus;**
- Remarks** If TRUE, the drawer can report status.
 If FALSE, the drawer is not able to determine whether cash drawer is open or closed.

*This property is initialized by the **Open** method.*

CapStatusMultiDrawerDetect Property Added in Release 1.5

- Syntax** **BOOL CapStatusMultiDrawerDetect;**
- Remarks** If TRUE, statuses unique to each drawer in multi-drawer configurations* can be reported.

If FALSE, the following implications exist:

DrawerOpened value of FALSE indicates that the drawer is closed.

DrawerOpened value of TRUE indicates that at least one drawer is open, and it *might* be the particular drawer in question. This case can occur in multi-drawer configurations* where only one status is reported indicating either a.) all drawers are closed, or b.) one or more drawers are open.

This property is only meaningful if **CapStatus** is TRUE.

This property is initialized by the **Open** method.

*Multi-Drawer Configuration – A hardware configuration where a printer or terminal supports opening more than one drawer independently via the same channel or hardware port. A typical example is a configuration with a “Y” cable connected to a single hardware port that controls two drawers.



DrawerOpened Property

Syntax **BOOL DrawerOpened;**

Remarks If TRUE, the drawer is open*.
 If FALSE, the drawer is closed.

If the capability **CapStatus** is FALSE, then the device does not support status reporting, and **DrawerOpened** is always FALSE.

*If the capability **CapStatusMultiDrawerDetect** is FALSE, then a **DrawerOpened** value of TRUE indicates at least one drawer is open, and it *might* be the particular drawer in question for multi-drawer configurations. See **CapStatusMultiDrawerDetect** for clarification.

This property is initialized and kept current while the device is enabled.



Methods

OpenDrawer Method

- Syntax** **LONG OpenDrawer ()**
- Remarks** Call to open the drawer.
- Return** One of the following values is returned by the method and placed in the **ResultCode** property:

Value	Meaning
--------------	----------------

OPOS_SUCCESS	The drawer was opened successfully.
--------------	-------------------------------------

<i>Other Values</i>	See ResultCode .
---------------------	-------------------------



WaitForDrawerClose Method

Syntax **LONG WaitForDrawerClose (LONG BeepTimeout, LONG BeepFrequency, LONG BeepDuration, LONG BeepDelay);**

Parameter	Description
------------------	--------------------

<i>BeepTimeout</i>	Number of milliseconds to wait before starting an alert beeper.
--------------------	---

<i>BeepFrequency</i>	Audio frequency of the alert beeper in hertz.
----------------------	---

<i>BeepDuration</i>	Number of milliseconds that the beep tone will be sounded.
---------------------	--

<i>BeepDelay</i>	Number of milliseconds between the sounding of beeper tones.
------------------	--

Remarks Call to wait until the cash drawer is closed. If the drawer is still open after *BeepTimeout* milliseconds, then the system alert beeper is started.

Unless an error occurs, this method will not return to the application while the drawer is open. When the cashier closes the drawer, the beeper is turned off.

If the capability **CapStatusMultiDrawerDetect** is FALSE then unless an error occurs, this method will not return to the application while *any* drawers are open in a multi-drawer configuration. When all drawers are detected as closed, the beeper is turned off. If the capability **CapStatus** is FALSE, then the device does not support status reporting, and this method will return immediately with a successful status.

Return One of the following values is returned by the method and placed in the **ResultCode** property:

Value	Meaning
--------------	----------------

OPOS_SUCCESS	The drawer was properly closed.
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<i>Other Values</i>	See ResultCode .
---------------------	-------------------------



Events

StatusUpdateEvent Event

Syntax `void StatusUpdateEvent (LONG Status);`

The *Status* parameter contains the updated drawer status.

Release 1.0 - 1.2

If *Status* contains a non-zero value, then the drawer is open.

If *Status* contains a zero value, then the drawer is closed.

Release 1.3 and later

One of the following values may be returned:

Value	Meaning
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CASH_SUE_DRAWERCLOSED (= 0)	The drawer is closed.
-----------------------------	-----------------------

CASH_SUE_DRAWEROPEN (= 1)	The drawer is open.
---------------------------	---------------------

Power reporting StatusUpdateEvent values

See **StatusUpdateEvent** description on page **Error! Bookmark not defined.**

(Can only be returned if the application sets **PowerNotify** to OPOS_PN_ENABLED.)

Remarks Fired when the open status of the drawer changes.

If the capability **CapStatus** is FALSE, then the device does not support status reporting, and this event will never be fired.

If the capability **CapStatusMultiDrawerDetect** is FALSE, then a CASH_SUE_DRAWEROPEN value (= 1) indicates at least one drawer is open, and it *might* be the particular drawer in question for multi-drawer configurations. See **CapStatusMultiDrawerDetect** for clarification



Section 7: Service and Support

This section explains service and support requirements of the APG Cash Drawer OPOS ADK. Each cash drawer device must be configured before being applied in an application. The APG OPOS Configuration Utility application will configure the selected APG Cash Drawer device and update the System Registry.

Models 182, 212A, 354, and 484A Interface Cash Drawers

In the event of drawer replacement after system configuration, these cash drawer types may be removed and replaced with an identical interface without reconfiguring the System Registry through the AOCUtility application.

Model 554 HID-Compliant USB Interface

Each Model 554 HID-Compliant USB cash drawer has a unique identifier, called a HID number, which the OPOS driver uses and references during system configuration.

The HID (Human Interface Device) number is an APG-specific number, communicated in the User Defined portion of the USB Bus Packet transmission that allows for unique identification and enumeration of each cash drawer device on the Universal Serial Bus. This HID-number assigned individually allows multiple drawers to be configured on the bus.

If replacing an existing drawer configured with the APG OPOS ADK, the new drawer will likely have a different HID number. The original cash drawer device must be removed from the System Registry and a new drawer must be configured using the AOCUtility.

1. Remove the current cash drawer hardware from the workstation.
2. Run the AOCUtility, click Remove Device and select the appropriate USB cash drawer device.
3. Unpack, install, and connect the new, replacement Model 554 cash drawer to the workstation.
4. Launch the AOCUtility application, click Add Device to reconfigure a new DeviceName e.g. CD554 or CD554-** in a multiple drawer setting. During this process, the System Registry will be updated to properly reference the new cash drawer with the new HID number.
5. Verify proper cash drawer operation through the OPOSCDTest.EXE application, if applicable.
6. Verify the OPOS-compliant Point of Sale software application properly references the intended cash drawer Device Name in the System Registry.

Note: The HID number is automatically detected and assigned by the AOCUtility during device configuration. The HID number is not entered, manually or otherwise, by the user when configuration the USB device using the APG Cash Drawer OPOS ADK.