



USB CASH DRAWER INTERFACE

Introduction

USB is an interface communication standard that was designed to allow multiple devices to connect to a single port on a supporting host device. Multiple devices are possible because the USB standard requires that each device have a unique identifier that the host uses to direct traffic to and from the device.

The USB standard also allows for “Hot Plugging” which allows for the devices removal from and re-attachment to the host device without powering down the host or re-installing the drivers.

International Cash Drawer Ltd. offers a USB Cash Drawer interface developed by M-S Cash Drawer Corporation. The interface module is fitted in the rear of the cash drawer. The interface is designed to open the drawer and to report the open/closed status of the drawer. Power is supplied by the USB port; an external power supply is not required.

Drivers

Drivers are currently available for Windows 98 SE (Second Edition) or later. Installation of drivers must be performed before connecting cash drawer to the USB port.

1. Download the appropriate drivers for your operating system. For Windows 9X the download is USBInstall_9x.zip; for Windows 2000/NT/XP the download file is USBInstall_2X.zip.
2. Save the downloaded zip file on your computer.
3. Extract the files to a folder of your choice.
4. Run Setup.exe from the folder where you saved the extracted files.
5. Setup will copy the required files onto your computer.
6. Your computer might need to restart.

After restart:

1. Attach the cash drawer to your computer’s USB port.
2. Your computer should auto detect the cash drawer as a USB Device and start the Hardware update wizard.
3. Choose install from list or specific location (Advanced) option. Press button labeled “Next”.
4. Choose Search for best driver in this location and select include this location in the search.
5. Press browse and choose the folder in which you extracted the driver files.
6. Press next.
7. Windows will start copying the driver files to required location.
8. It will prompt you to press Finish to complete the process.

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Setting DIP Switches on Cash Drawer

Set the switches on the rear of the cash drawer to the desired USB ID (factory settings = 1)

USB ID	<u>USB ID</u> SW1	<u>CHART</u> SW2	SW3	<u>DRAWER STATUS</u> SW4
1	0	0	0	*
2	1	0	0	*
3	0	1	0	*
4	1	1	0	*
5	0	0	1	*
6	1	0	1	*
7	0	1	1	*
8	1	1	1	*
	0 = Off, 1 = On			

* SW4 specifies the type of micro switch in the cash drawer used to read the open / closed status of the drawer.

SW4=0 means NO (“normally open”): switch reads signal (switch closed) when drawer is closed.

SW4=1 means NC (“normally closed”): switch reads signal (switch closed) when drawer is open.

Testing

1. Select Start->Programs->M-S Cash Drawer Controller->M-S Cash Drawer USB Controller
2. Set the switches on the cash drawer to the USB ID you want (default = 1).
3. Select the corresponding drawer number on the test program interface..
4. You should be able to trigger and register drawer status.

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POS Software

The following DLL functions are used.

1. GetDrawerHandle

This function determines if the cash drawer controller has been added to the bus. If so it returns the handle to the controller, else it returns a 0.

Calling Structure In C

ULONG GetDrawerHandle (BYTE drawer_number):

Example:

```
handle = GetDrawerHandle(0);
if (handle) drawer_online = TRUE;
else drawer_online = FALSE;
```

Calling Structure In Visual Basic

Private Declare Function GetDrawerHandle Lib "MSPOS_USB.dll" (ByVal Handle As Long) As Integer

Example:

```
handle = GetDrawerHandle(0)
If handle > 0 Then
    Drawer_Online = TRUE
Else
    Drawer_Online = False
End If
```

Calling Structure In Visual FoxPro

DECLARE Integer GetDrawerHandle IN MSPOS_USB.dll Long nDrawerNumber

Example:

```
handle = GetDrawerHandle( 0 )

IF handle = 0
    *.... failed to initialize....
ENDIF
```

(For programming purposes drawer_number = 0 for Drawer #1 and so forth.)

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2. OpenDrawer

This function opens the cash drawer. You must give the function the handle to the cash drawer you are using. The solenoid will fire **ONLY** if the drawer is closed. (see setting DIP switches – Drawer Status). The function will return: drawer opened (2), drawer open (3) or, failure (0).

Calling Structure In C

```
int OpenDrawer (ULONG device_handle);
```

Example:

```
Result = OpenDrawer (handle);
```

```
If (!Result) drawer_online = 0
```

Calling Structure In Visual Basic

```
Private Declare Function OpenDrawer Lib "MSPOS_USB.dll (ByVal Handle As Long) As Integer
```

Example:

```
Result = OpenDrawer(Handle)
```

```
If Result = 0 Then Drawer_Online = False
```

Calling Structure in Visual Foxpro

```
DECLARE Integer OpenDrawer IN MSPOS_USB.dll Long nDeviceHandle
```

Example:

```
Result = OpenDrawer( handle )
```

* Possible results...

* 0 = failure

* 2 = success

* 3 = drawer was already open

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3. GetDrawerStatus

This function returns the state of the microswitch in the cash drawer which signals drawer open or closed (See setting DIP Switches).

You must give the function the handle to the cash drawer you are using. The function will return failure (0), drawer closed (1), or drawer open (2).

Calling Structure In C

```
int GetDrawerStatus (ULONG device_handle);
```

Example

```
Result = GetDrawerStatus (handle)
if (Result==2) drawer_open = TRUE;
else if (Result==1) drawer_open = FALSE
else drawer_online = FALSE;
```

Calling Structure In Visual Basic

Private Declare Function GetDrawerStatus Lib "MSPOS_USB.dll" (ByVal Handle As Long) As Integer

Example:

```
Result = GetDrawerStatus (handle)
If Result = 2 Then
    Drawer_Open = TRUE
Else If Result = 1
    Drawer_Open = FALSE
Else
    Drawer_Online = False
End If
```

Calling Structure in Visual Foxpro

```
DECLARE Integer GetDrawerStatus IN MSPOS_USB.dll Long nDeviceHandle
```

Example:

```
Result = GetDrawerStatus( handle )
DO CASE
    CASE Result = 2
        * Drawer is open
    CASE Result = 1
        * Drawer is closed
    OTHERWISE
        * Drawer is NOT online -- there is a problem.
ENDCASE
```

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4. ReleaseDrawerHandle

This function will release the device handle. Call this function when your program is finished using the device or when your program exits

Calling Structure In C

int ReleaseDrawerHandle (ULONG device_handle);

Example

Result = ReleaseDrawerHandle (handle);

Calling Structure In Visual Basic

Private Declare Function ReleaseDrawerHandle Lib "MSPOS_USB.dll" (ByVal Handle As Long) As Integer

Example:

Result = ReleaseDrawerHandle(handle)

Calling structure in Visual Foxpro

DECLARE Integer ReleaseDrawerHandle IN MSPOS_USB.dll Long nDeviceHandle

Example:

Result = ReleaseDrawerHandle(nDrawerHandle)

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