USER GUIDE

WinCE Display Driver Escape Function Interface

Version 1.0

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REVISION HISTORY

Version	Date	Revision
1.0	12/3/07	Updated format and fixed grammar.

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1 INTRODUCTION

This document describes the VIA low level function interface. Users can control these functions through the Windows CE Display Driver Escape Functions. This document can be used as a reference for the development of customized applications.

The document describes the following Windows CE Driver Escape Functions:

1. **Alpha Control**

   VIA provides the functions to help the customer develop their program that implement the Alpha Blend feature.

2. **Access I2C Bus Sample Program**

   VIA provides the functions to help the customer access the I2C Bus device byte by byte.

3. **Display Mode Test Tool**

   This is a simple program to help the user to verify if their output device supports the specific resolution or not. It can help the user to set a non-supported output resolution on their device.

2 DEFINITIONS

2.1 Function IDs for Alpha Control

2.1.1 Display Driver Escape Function IDs for Create Alpha Surface

In the Windows CE alpha control sample program, the following escape functions for Create Alpha Surface are implemented.

Master Function Name	No.
VIA_ALPHABLEND_CREATE	0x4001

2.1.2 Display Driver Escape Function IDs for Set Alpha Blending Type

In the Windows CE alpha control sample program, the following escape functions for Set Alpha Blending Type are implemented.

Master Function Name	No.
VIA_ALPHABLEND_UPDATE	0x4002
Sub Function Name	**No.**
ALPHABLEND_SURFACE ALPHABLEND_CONSTANT ALPHABLEND_COMBINE	0x0001 0x0002 0x0003

2.1.3 Display Driver Escape Function IDs for Disable Alpha Blending

In the Windows CE alpha control sample program, the following escape functions for Set Disable Alpha Blending are implemented.

Master Function Name	No.
VIA_ALPHABLEND_DISABLE	0x4003

2.2 Display Driver Escape Function IDs for Access I2C Bus Program

In the Windows CE display driver, the following escape functions for I2C Bus Interface are implemented.

Master Function Name	No.
VIA_RAW_I2C_START	0x430A
VIA_RAW_I2C_STOP	0x430B
VIA_RAW_I2C_WRITE_DATA	0x430C
VIA_RAW_I2C_READ_DATA	0x430D
VIA_RAW_I2C_SENDACKNOWLEDGE	0x4312
VIA_RAW_I2C_SENDNACKNOWLEDGE	0x4313

2.3 Display Driver Escape Function IDs for Display Mode Test Tool

In the Windows CE display driver, the following escape functions for Display Mode Test Tool are implemented.

Master Function Name	No.
VIA_GETDISPLAYMODE	0x4102
VIA_SETDISPLAYMODE	0x4103

3 FUNCTION DETAILS

3.1 The Interface of Alpha Blend Control Escape Function

Create Alpha Surface

Main Function: VIA_ALPHABLEND_CREATE

Input Buffer:

type	offset	data
RECT	0	Alpha surface boundary

Output Buffer:

type	offset	data
DWORD	0	Surface Offset
BOOL	4	If Alpha Level is 256

Set Alpha Blend Type

Main Function: VIA_ALPHABLEND_UPDATE

Input Buffer:

type	offset	data
BYTE	0	Alpha Value
DWORD	1	Alpha Type (refer to the alpha blending type list)

Output Buffer:

None (NULL)

Disable Alpha Blend

Main Function: VIA_ALPHABLEND_DISABLE

Input Buffer:

None (NULL)

Output Buffer:

None (NULL)

3.2 The Interface of I2C Bus Escape Function

Send I2C Start Bit

Main Function: VIA_RAW_I2C_START

Input Buffer:

None (NULL)

Output Buffer:

None (NULL)

Send I2C Stop Bit

Main Function: VIA_RAW_I2C_STOP

Input Buffer:

None (NULL)

Output Buffer:

None (NULL)

Write a Byte to I2C Bus

Main Function: VIA_RAW_I2C_WRITE_DATA

Input Buffer:

type	offset	data
BYTE	0	Write a Byte to I2C Bus

Output Buffer:

type	offset	data
INT	0	Status

Return code AX:

0x01 if the function succeeds

0x00 if the function fails

Read a Byte from I2C Bus

Main Function: VIA_RAW_I2C_READ_DATA

Input Buffer:

None (NULL)

Output Buffer:

type	offset	data
BYTE	0	Read a Byte from I2C Bus

Send ACK Bit from Master Device

Main Function: VIA_RAW_I2C_SENDACKNOWLEDGE

Input Buffer:

None (NULL)

Output Buffer:

None (NULL)

Send Non-ACK Bit from Master Device

Main Function: VIA_RAW_I2C_SENDNACKNOWLEDGE

Input Buffer:

None (NULL)

Output Buffer:

None (NULL)

3.3 The Interface of Display Mode Test Tool Escape Function

Get Display Mode

Main Function: VIA_GETDISPLAYMODE

Input Buffer:

None (NULL)

Output Buffer:

type	offset	data
DWORD		The total number of supported VGA mode
DWORD		Width;
DWORD		Height;
DWORD		Depth;
DWORD		Freq;

Set Display Mode

Main Function: VIA_SETDISPLAYMODE

Input Buffer:

type	offset	data
DWORD		Width;
DWORD		Height;
DWORD		Depth;
DWORD		Freq;

Output Buffer:

None (NULL)