

# EH-7106 Software Description

## 1. Windows XPE Software Spec

### **OS Kernel**

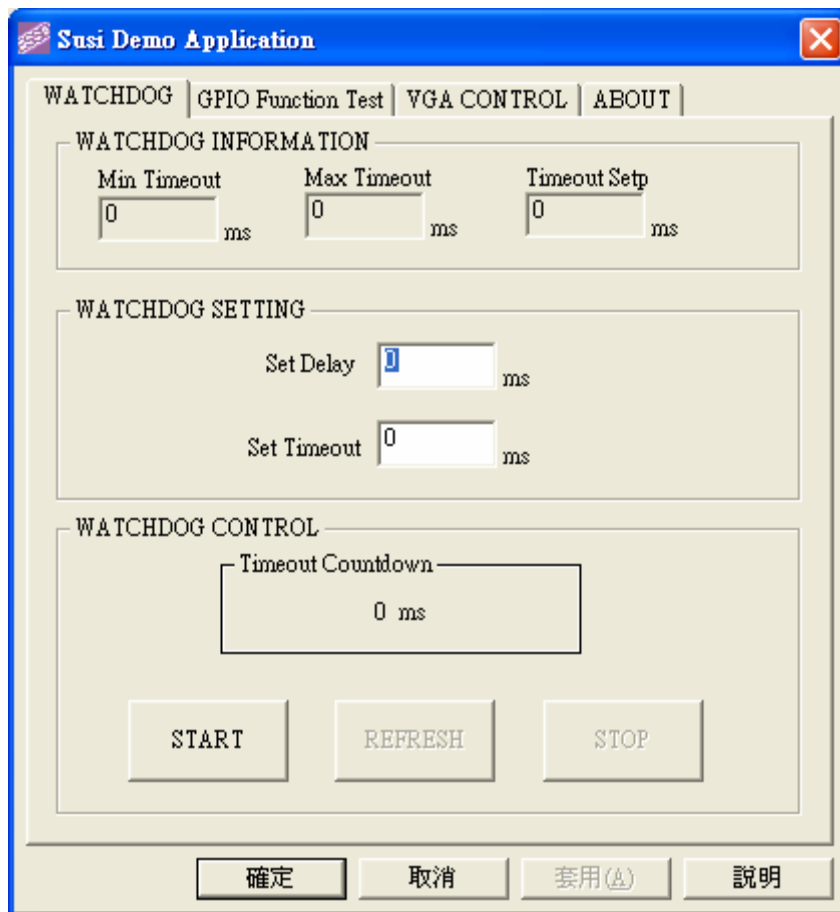
- Windows XP Embedded Version SP2

### **Advantech Susi API package**

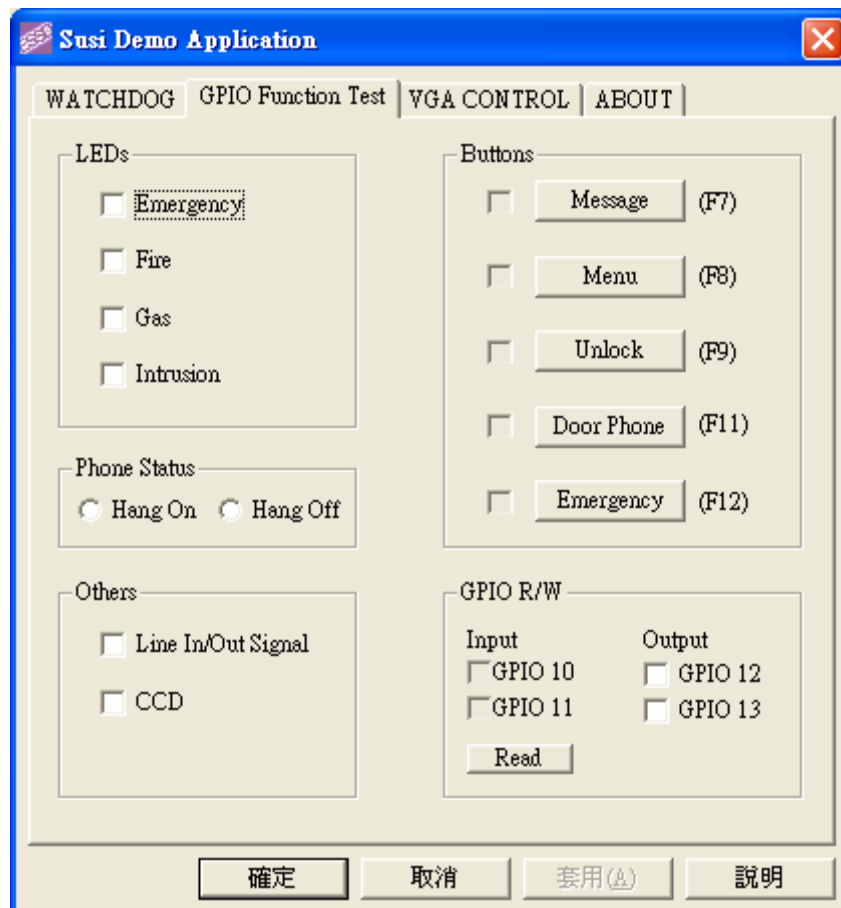
- The Susi package is development set for application developer including the following package. It is requested by project, so pls contact Advantech PM & AE for details.
- Contents:
  - API for controlling Hot keys, Status LED, CCD, and Other I/O API
  - Demo Application: WATCHDOG, GPIO Function List, VGA Control
  - Demo Application Source Code
- API List:
  - GPIO Pin Definition
  - GPIO Virtual-Key Codes
  - SusilORead
  - SusilOReadMulti
  - SusilOWrite
  - SusilOWriteMulti

- Demo Application:

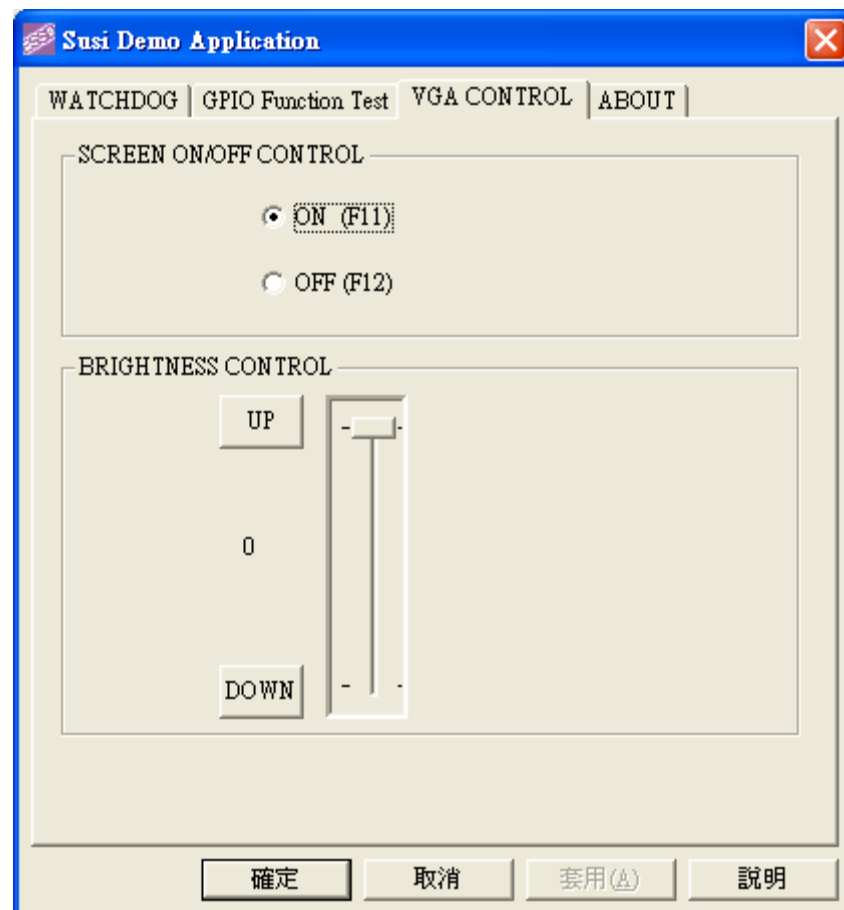
WATCHDOG: A watchdog timer (abbreviated as WDT) is a hardware device which triggers an action, e.g. rebooting the system, if the system does not reset the timer within a specific period of time. The WDT API in the Susi provides developers with functions such as starting the timer, reset the timer, and set the timeout value if the hardware supports customized timeout value.



GPIO Function: General Purpose Input/Output (GPIO) is a flexible parallel interface that allows a variety of custom connections. Supports Digital I/O Devices. You can control cash drawers , LED light or buttons with GPIO.



VGA Control: There are two kinds of VGA control APIs, backlight on/off control and brightness control, in the Susi. Backlight on/off control can allow a developer to turn on or turn off the backlight. Our API allows a developer to turn on /off the backlight and to control brightness smoothly.



## GPIO Pin Definition

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List the GPIO pin definitions.

### Constants

*GPIO\_PIN\_FIRE*

*GPIO\_PIN\_GAS*

*GPIO\_PIN\_INTRUSION*

*GPIO\_PIN\_MESSAGE*

*GPIO\_PIN\_MENU*

*GPIO\_PIN\_UNLOCK*

*GPIO\_PIN\_DOORPHONE*

*GPIO\_PIN\_EMERGENCY*

*GPIO\_PIN\_LINESIGNAL*

*GPIO\_PIN\_CCD*

### Remarks

Use to specify pin number for functions SusiIORead, SusiIOReadMulti, SusiIOWrite, SusiIOWriteMulti.

## GPIO Virtual-Key Codes

---

List the GPIO Virtual-Key Codes.

### Constants

*GPIO\_VK\_MESSAGE*

*GPIO\_VK\_MENU*

*GPIO\_VK\_UNLOCK*

*GPIO\_VK\_DOORPHONE*

*GPIO\_VK\_EMERGENCY*

### Remarks

The above Virtual-Key codes are posted with window messages when relative button is pressed.

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## SusiIORead

---

Read current status of one GPIO pin.

```
BOOL SusiIORead(BYTE pin, BOOL *status);
```

### Parameters

*pin*

[ in ]     Specifies the GPIO pin demanded to be read. Begin from 0.

*status*

[ out ]     If the pin is active (high), status is nonzero. If the pin is inactive (low), status is zero.

### Return Value

TRUE     (nonzero) on success.

FALSE    (zero) on failure.

### Remarks

Application should specify valid input pin number to read. If the specified pin is invalid, the return value is FALSE.

## SusiIOReadMulti

---

Read current statuses of several GPIO pins.

```
BOOL SusiIOReadMulti(DWORD pins, DWORD *statuses);
```

### Parameters

*pins*

[in] Specifies the GPIO pins demanded to be read. The pins to read are bitwise-ored. Pin number begins from 0.

*statuses*

[out] Bitwise-ored status of assigned pins. For pins that are not specified, the related bit value is useless. For valid assigned pins, if the pin is active(high), the bit status is 1, otherwise 0.

### Return Value

TRUE (nonzero) on success.

FALSE (zero) on failure.

### Remarks

Read multiple input pins at the same time. The parameter pins is bitwise-ored. Bit 0 stand for GPIO 0, bit 1 stand for GPIO 1, etc. For example, if you want to read pin 0, 1, and 5, the pins parameter should be 0x00000023.



## SusiIOWrite

---

Set high/low value to one GPIO pin.

```
BOOL SusiIOWrite(BYTE pin, BOOL status);
```

### Parameters

*pin*

[in] Specifies the GPIO pin demanded to be written. Begin from 0.

*status*

[in] Set status to TRUE will set the pin active (high). Otherwise, set the pin inactive (low).

### Return Value

TRUE (nonzero) on success.

FALSE (zero) on failure.

### Remarks

Application should specify valid input pin number to write. If the specified pin is invalid, the return value is FALSE.

## SusiIOWriteMulti

---

Set several GPIO pins at the same time.

```
BOOL SusiIOWriteMulti(DWORD pins, DWORD statuses);
```

### Parameters

*pins*

[in] Specifies the GPIO pins demanded to be written. The pins to write are bitwise-ored. Pin number begin from 0.

*statuses*

[in] Bitwise-ored status of assigned pins. Set related bit of assigned pin to 1 will set the pin active (high). Otherwise, set the pin inactive (low).

### Return Value

TRUE (nonzero) on success.

FALSE (zero) on failure.

### Remarks

Write multiple output pins at the same time. The parameter pins and statuses are bitwise-ored. Bit 0 stand for GPIO 0, bit 1 stand for GPIO 1, etc. For example, if you want to set pin 0 and 1 high, 5 to low, the pin parameter should be 0x00000023, and statuses parameter can be 0x00000003.