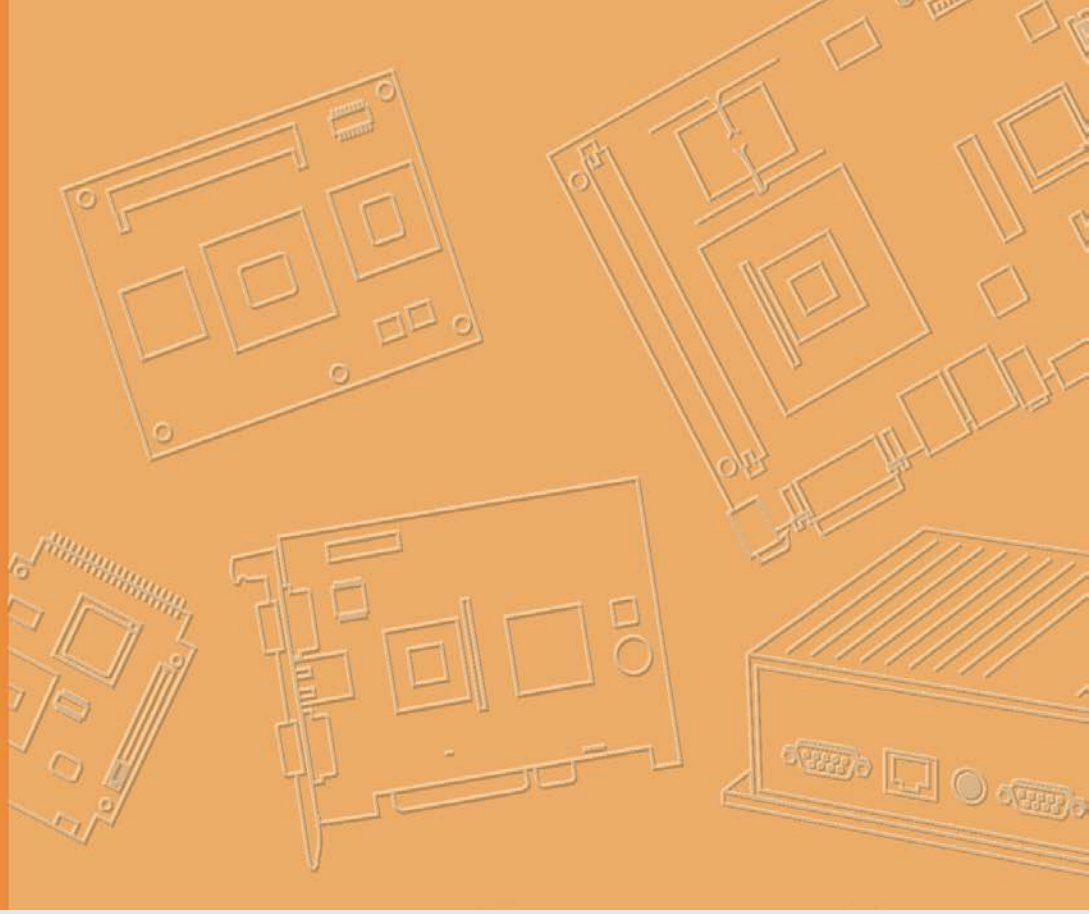

User Manual

TREK-734

Computer

ADVANTECH

Enabling an Intelligent Planet

Copyright

Acknowledgements

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Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandize authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Part No. Edition 1

Jan 2018

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class B

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

” Reorient or relocate the receiving antenna

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 FCC Rules.

Operation is subject to the following two conditions.

(1) This device may not cause harmful interference , and

(2) The device must accept any interference received, including interference may cause undesired operation.

FCC Caution :

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC RF Radiation Exposure Statement :

This device meets the government`s requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency(RF) energy set by the Federal Communications Commission of the U.S. Government.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user`s authority to operate the equipment.

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Technical Support and Assistance

1. Visit the Advantech web site at http://support.advantech.com where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

Warnings, Cautions and Notes

Warning! *Warnings indicate conditions, which if not observed, can cause personal injury!*

Caution! *Cautions are included to help you avoid damaging hardware or losing data. e.g.*

There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Note! *Notes provide optional additional information.*

Document Feedback

To assist us in making improvements to this manual, we would welcome comments and constructive criticism. Please send all such - in writing to: support@advantech.com

Packing List

Before setting up the system, check that the items listed below are included and in good condition. If any item does not accord with the table, please contact your dealer immediately.

Part number	Description	Q`ty
TREK-734C	TREK-734 Computer	1
1700019031	Power cable (2M)	1

Ordering Information

P/N	Description
TREK-734C-WBADA0E	TREK-734 I. MX6 1GB,4GB , Android5.1 WiFi only

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. Do not leave this equipment in an environment unconditioned where the storage temperature under -30° C (-22° F) or above 80° C (176° F), it may damage the equipment. Operating temperature: -20°C~70°C without battery.
8. Do not operate this equipment in an environment temperature may over 70°C(158° F). The surface temperature of plastic chassis may be hot.
9. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
10. Position the power cord so that people cannot step on it. Do not place anything over the power cord. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
13. Never pour any liquid into an opening. This may cause fire or electrical shock.
14. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
15. If one of the following situations arises, get the equipment checked by service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment does not work well, or you cannot get it to work according to the user's manual.
    - The equipment has been dropped and damaged.
    - The equipment has obvious signs of breakage.
16. CAUTION: The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace

only with same or equivalent type recommended by the manufacture. Discard used batteries according to the manufacturers instructions.

17. This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
    (1) this device may not cause harmful interference, and
    (2) this device must accept any interference received, including interference that may cause undesired operation.
18. CAUTION: Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges.
19. CAUTION: Always ground yourself to remove any static charge before touching the motherboard, backplane, or add-on cards. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis.
20. CAUTION: Any unverified component could cause unexpected damage. To ensure the correct installation, please always use the components (ex. screws) provided with the accessory box.

Safety Precaution - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from your PC chassis before you work on it. Don't touch any components on the mainboard or other cards while the system is on.
- Disconnect power before making any configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.

This product is intended to be supplied by a Listed DC power source, rated 9~32Vdc, 10A maximum and Tma 55 degree C, if need further assistance with purchasing the DC power source, please contact Advantech for further information.

Warning!

1. *Input voltage rated: 9 - 32 Vdc.*
2. *Transport: carry the unit with both hands and handle with care.*
3. *Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator.*
4. *SD/SIM card: Turn off the power before inserting or removing the storage cards.*

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Chapter 1

General Information

This chapter gives background information on the TREK-734 Computer

Sections include:

- **Introduction**
- **General Specifications**
- **Dimensions**

1.1 Introduction

TREK-734 is a RISC-based open platform all-in-one light-duty mobile data terminal equipped with an 8” display, Freescale ARM® Cortex™-A9 i.MX 6 Dual lite processor, Android 5.1 OS , 2GB memory and networking capabilities to enable high performance computing for fleet management applications. TREK-734 supports WiFi , BT, and GPS communication to facilitate location tracking and route optimization. The built-in backup battery ensures an uninterruptable power supply by providing up to 30 minutes of emergency power in the event of a power failure. Certified to MIL-STD-810G standards for vibration tolerance. Moreover, three external antenna ports are provided for enhanced network communication in order to effectively support critical outdoor applications.

1.2 General Specifications

Features

- Freescale ARM® Cortex™-A9 i.MX 6 Dual lite processor with Android 5.1.
- Rich I/O connectors designed on top of rear side for easy system integration.
- 2 front side speakers make volume louder in real application environment.
- Built-in WiFi/BT for data communication.
- Advanced Shock & anti-vibration certified by MIL-STD-810G.
- Advanced Android SDK , test utility for customer evaluating.

Specifications

System	Processor	Freescale ARM® Cortex™-A9 i.MX 6DualLite (1 GHz)
	Memory	1 GB DDR3 (supports up to 2 GB)
	Storage	4 GB onboard eMMC (supports up to 8 GB) 1 x Micro SD slot (externally accessible)
	Watchdog	Yes
	RTC	Yes
	O.S	Android 5.1.1
RF	WiFi	IEEE 802.11 b/g/n
	Bluetooth	Bluetooth V4.0
	GNSS	u-blox MAX-M8Q (GPS, BD, GLONASS, Galileo)
	Voice call	N/A
	Wake-on-WWAN	N/A
	External Antenna	1 x WLAN, 1 x GPS (TNC type)
Display	Size/Type	8" (16:10) TFT LCD
	Max. Resolution	1024 x 600
	Brightness (cd/m2)	750 nits
	Viewing Angle (R/L/B/T)	70/80/80/80
	Backlight Life	20,000 hrs
Touchscreen		Capacitive (multi-touch)
Brightness Control		Light sensor for automatic dimming
Function Key		5 x programmable function keys with green LED backlight
I/O	I/O Port (via high-density connector)	1 x CAN bus (supports raw CAN, J1939, OBD-II/ISO 15765) (via high-density connector)
	Generic I/O Port (via high-density connector)	4 x Isolated DI/2 x DO 1 x 4-wire RS-232, 1 x 2-wire RS-232 1 x CVBS-In 1 x Mic-In 1 x Line-In (R & L) 1 x Line-Out (R & L)
	Standard I/O Port	1 x USB 2.0 host @ R; mini USB debugging (5 pin) 1 x USB 2.0 client @ R; USB type A host (4 pin)
	Indicator	1x LED (Power)
Power	Power Button	Yes
	Reset	Yes
	Input Voltage	9-32V DC
	Backup Battery (Optional)	3.6 V 2400 mAh
Mechanical	Dimensions (W x H x D)	250 x 175 x 85 mm (9.84 x 6.88 x 3.34") with IP-rated I/O cover 250 x 175 x 42 mm (9.84 x 6.88 x 1.65")
	Weight	1.3 kg (2.86 lb)
Environment	IP Rating	IP54
	Regulation	E-Mark, ISO 7637-2, SAE J1455, SAE J1113
	EMC	CE,FCC
	Safety	UL/cUL, CB, CCC
	Operating Temperature	-10° C ~ 70° C (without battery) -20° C ~ 60° C (with battery discharge) 10° C ~ 60° C (with battery charge)
	Storage Temperature	-30° C ~ 80° C (without battery)
	Shock/Vibration	MIL-STD-810G, SAE J1455

1.3 Dimensions

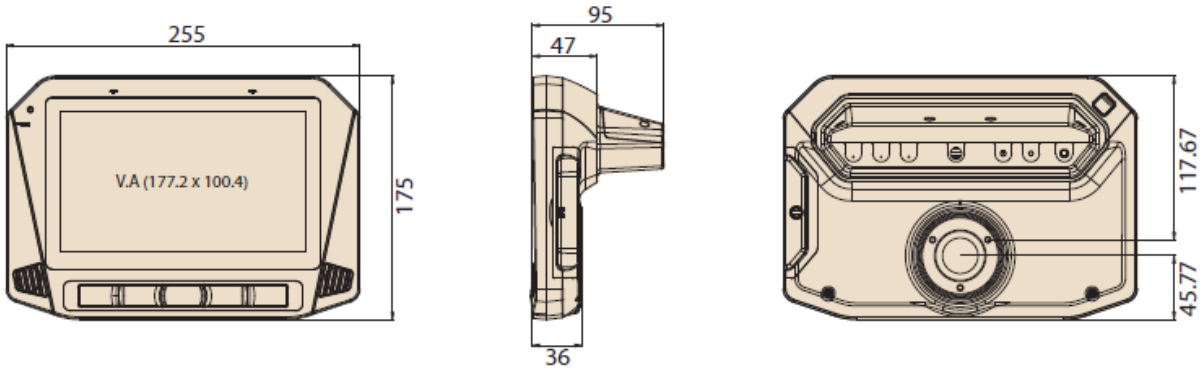


Figure 1.1 TREK-734 dimensions

Chapter 2

System Setup

This chapter details system setup on TREK-734

Sections include:

- A Quick Tour of the Computer Box
- Installation Procedures

2.1 A Quick Tour of the TREK-734 Computer

Before starting to set up TREK-734, take a moment to become familiar with the locations and functions of the connectors and ports, which are illustrated in the figures below.

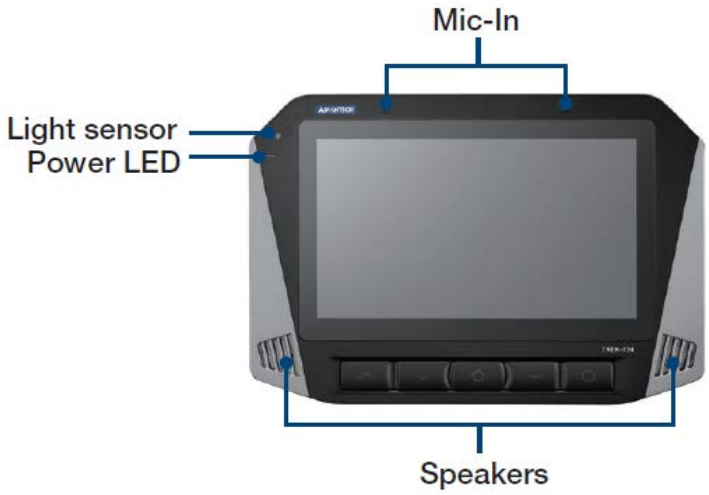


Figure 2.1 Front view of TREK-734

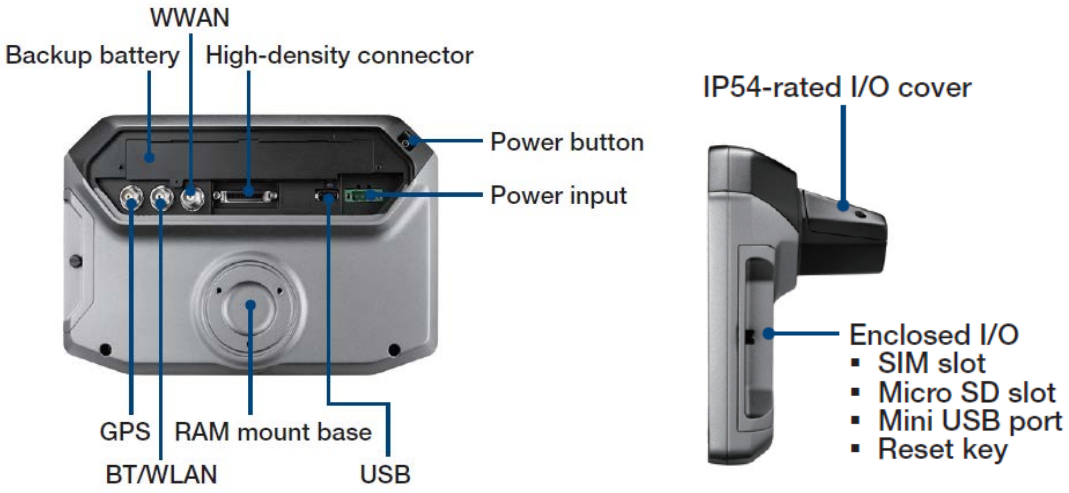


Figure 2.2 Rear view of TREK-734

2.2 Installation Procedures

2.2.1 Installing SIM car & Storage card

Remove enclosed I/O door screw and can install SIM Card & Micro SD card directly.

Figure 2.3 Installing SIM card & Storage card

2.2.2 Connecting Power

Connect the three pin waterproof power cord to the DC inlet of the Computing Box. On the open-wire end, one pin is reserved for positive voltage and is marked, "+"; one pin is reserved for ground and is marked, "-"; and, one pin is reserved for the ignition signal with an “ignition” mark.

Note! *Ignition on/off setting: The TREK-734 supports an ignition on/off function so that you can power on/off the TREK-734 via the ignition signal/voltage and connect the TREK-734 ignition switch.*

Table 2.1: Pin Definition of Power Cord

Pin	Definition	Color
1	-	Black
2	+	Red
3	Ignition	Orange

2.2.2 Power Connector

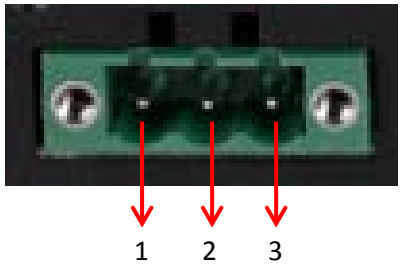


Figure 2.6 Power connector outlook

Table 2.2: Power connector			
Pin	Signal	Pin	**Signal**
1	Ground	2	Power input (9~32VDC)
3	Acc ignition input		

Chapter 3

I/O Connectors

This chapter explains how to set up the Computing Box hardware, including instructions on setting.

Sections include:

- **I/O connectors pin assignment**

3.1 I/O Connectors Pin Assignment

3.3.1 Power connector

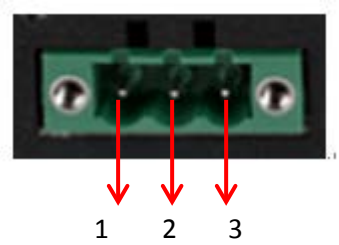


Table 3.1: Power connector

Pin	Signal	Pin	Signal
1	Ground	2	Power input (9~32VDC)
3	Acc ignition input		

3.3.1.1 Power in Jack Cable

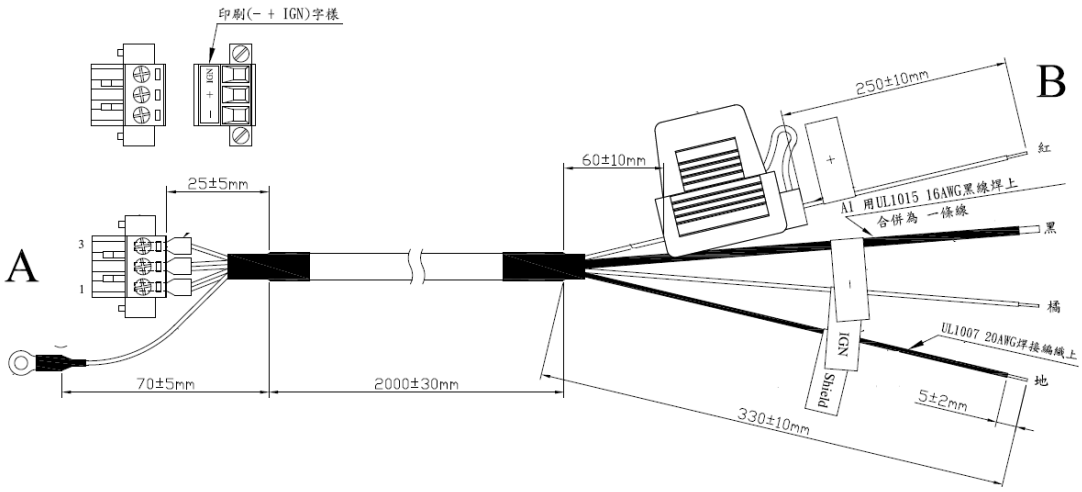


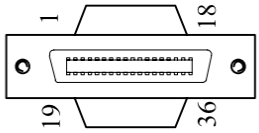
Table 1: Power JACK Cable Pin Depiction		
PIN	**Signal Depiction**	**Cable /Label**
1	Power Ground	/ -
2	Power Input (9 ~ 32 V_{DC})	/ +
3	Acc Ignition Input	/ IGN
	Shield Ground	/Shield

Fuse Spec: 58V/10A*1

3.3.2 High Density Connector

1	GND	19	GND_CODEC
2	RS232_RTS1_HD	20	MIC_IN1
3	RS232_CTS1_HD	21	LINE_IN_P
4	RS232_TX1_HD	22	LINE_IN_N
5	RS232_RX1_HD	23	LINE_OUT_R
6	RS232_TX2_HD	24	LINE_OUT_L
7	RS232_RX2_HD	25	ISO_DO_DRAIN1
8	RS-232_DCD2_HD	26	ISO_DO_DRAIN2
9	CVBS_HD	27	ISO_DI_1
10	GND	28	ISO_DI_2
11	USB_HD_DP_H	29	ISO_DI_3
12	USB_HD_DN_H	30	ISO_DI_4
13	GND	31	ISO_DI_5
14	+V5_HD_USB	32	ISO_DI_6
15	GND	33	ISO_GND
16	GND	34	GND
17	+12V_HD_HD1	35	CAN_H_R
18	+12V_HD_HD1	36	CAN_L_R

3.3.2.1 High density cable



36Pin connector cable pin define	
Pin number	Pin name
1	GND_RS12
2	RS232_RTS1_HD
3	RS232_CTS1_HD
4	RS232_TX1_HD
5	RS232_RX1_HD
6	RS232_TX2_HD
7	RS232_RX2_HD
8	RS-232_DCD2_HD
9	CVBS_HD
10	GND_CVBS
11	USB_HD_DP_H
12	USB_HD_DN_H
13	GND_USB
14	+V5_HD_USB
15	GND_12V
16	GND_12V
17	+12V_HD_HD1
18	+12V_HD_HD1
19	GND_CODEC
20	MIC_IN1
21	LINE_IN_P
22	LINE_IN_N
23	LINE_OUT_R
24	LINE_OUT_L
25	ISO_DO_DRAIN1
26	ISO_DO_DRAIN2
27	ISO_DI_1
28	ISO_DI_2
29	ISO_DI_3
30	ISO_DI_4
31	ISO_DI_5
32	ISO_DI_6
33	ISO_GND
34	GND_CAN
35	CAN_H_R

3.3.3 USB Connector

Connector type: Stack USB A-Type Receptacle DIP UB1112C-8FDE-4F

Table 3. : USB Connector

Pin	Signal Depiction
1	Vcc
2	USB_Data-
3	USB_Data+
4	GND

Chapter 4

Software Demo Utility Setup

This chapter explains the software demo utility for TREK-734

Sections include:

- Introduction
- How to Set up Demo Utility

4.1 Introduction

Advantech has developed demo utilities based on Advantech provided SDK APIs to let user test the functions on TREK-734. This document describes the usage of each demo utilities and also provide a basic concept of the application development on TREK-734.

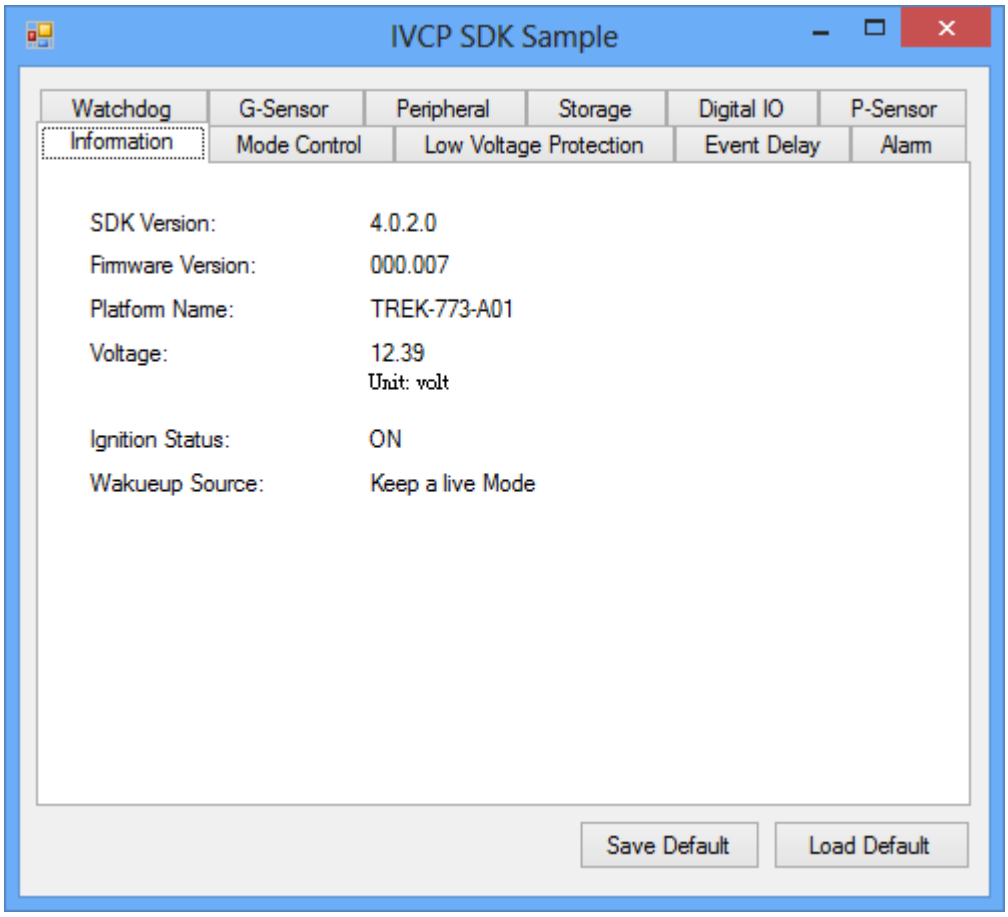
For technical support, contact Advantech application engineers worldwide. For news updates, please visit our website : www.advantech.com and MRM forum : http://mrmforum.advantech.com/index.aspx

4.2 IVCP Demonstration

The IVCP demonstration application demonstrate the usage of MRM IVCP API which is a lightweight interface between OS (Operating system) and IVCP (Intelligent Co-Processor) allow user to access the status of machine and change machine behavior such as power management, boot behavior, peripheral control etc.

4.2.1 Information

In this page, the demo application shows the current status and basic information.

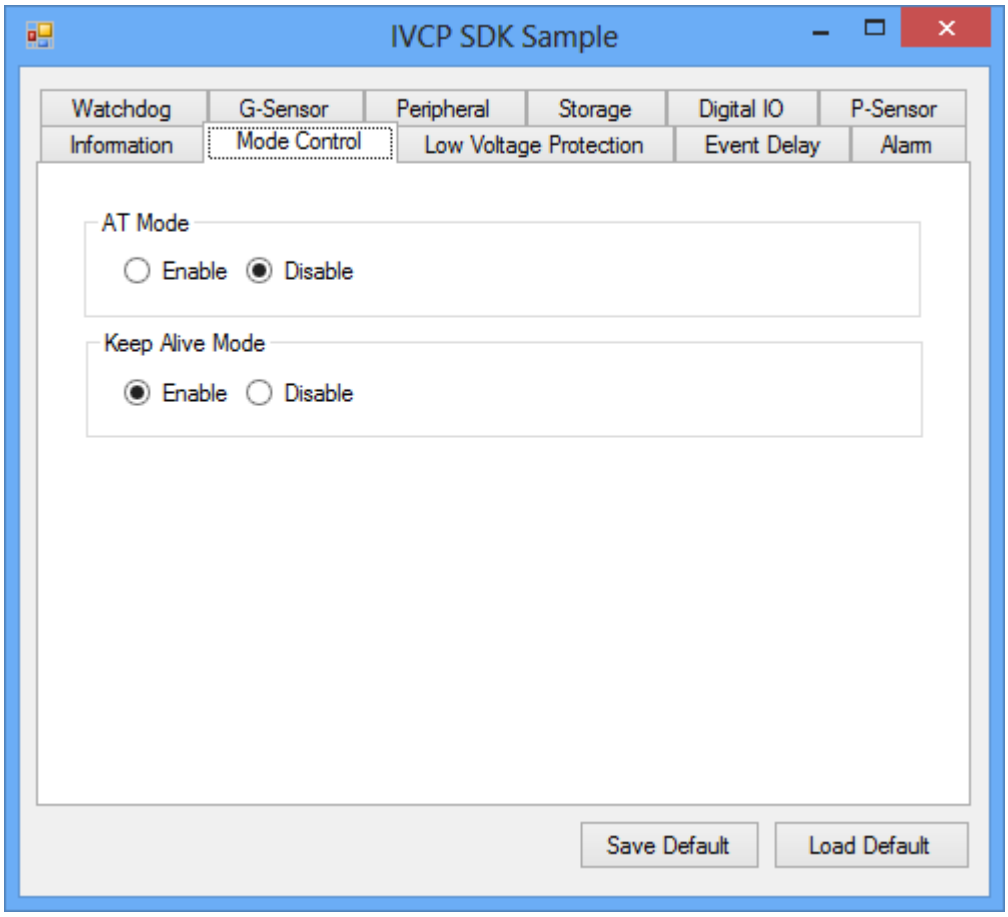


4.2.2 Mode Control

In this page, you can toggle “AT Mode” and “Keep Alive Mode”.

Press “Save Default” to set current settings as default value of VPM controller.

Press “Load Default” to load the default values.



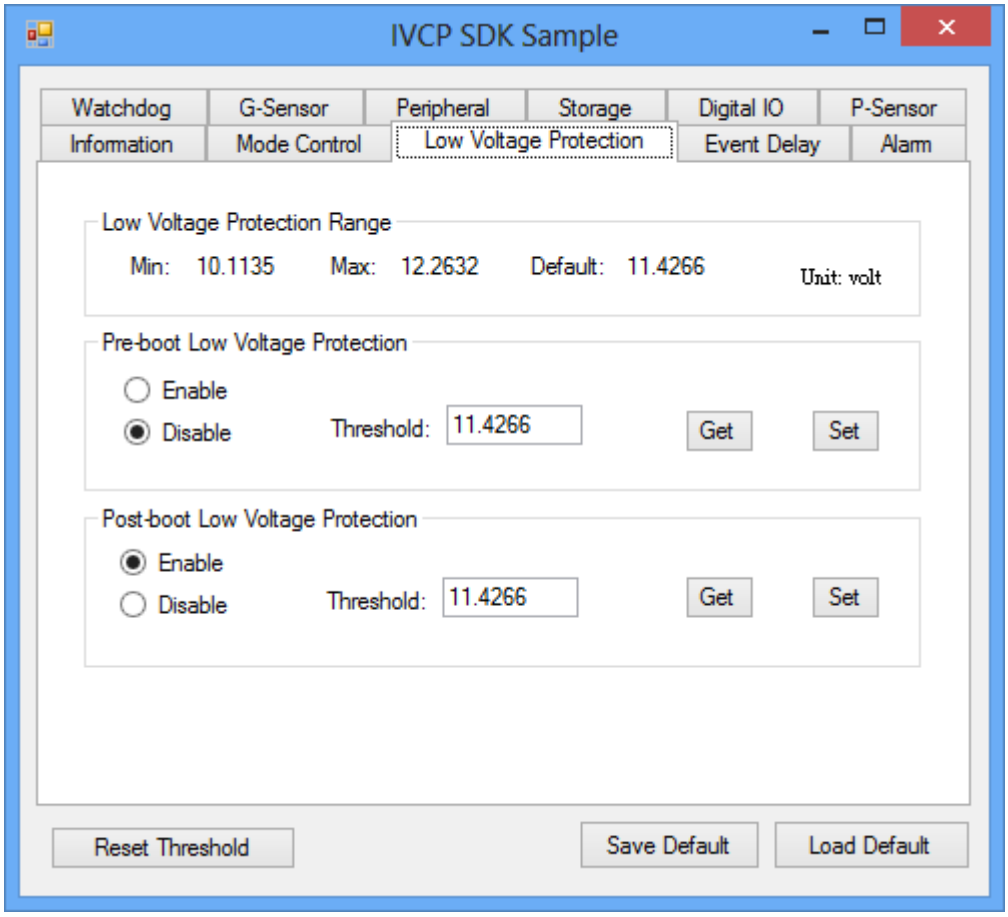
4.2.3 Low Voltage Protection

You can enable/disable and set the pre-boot/post-boot low voltage protection threshold in this page.

Press “Get” to get the current threshold value and Press “Set” to set the value.

Press “Save Default” to set current value as default value of VPM controller.

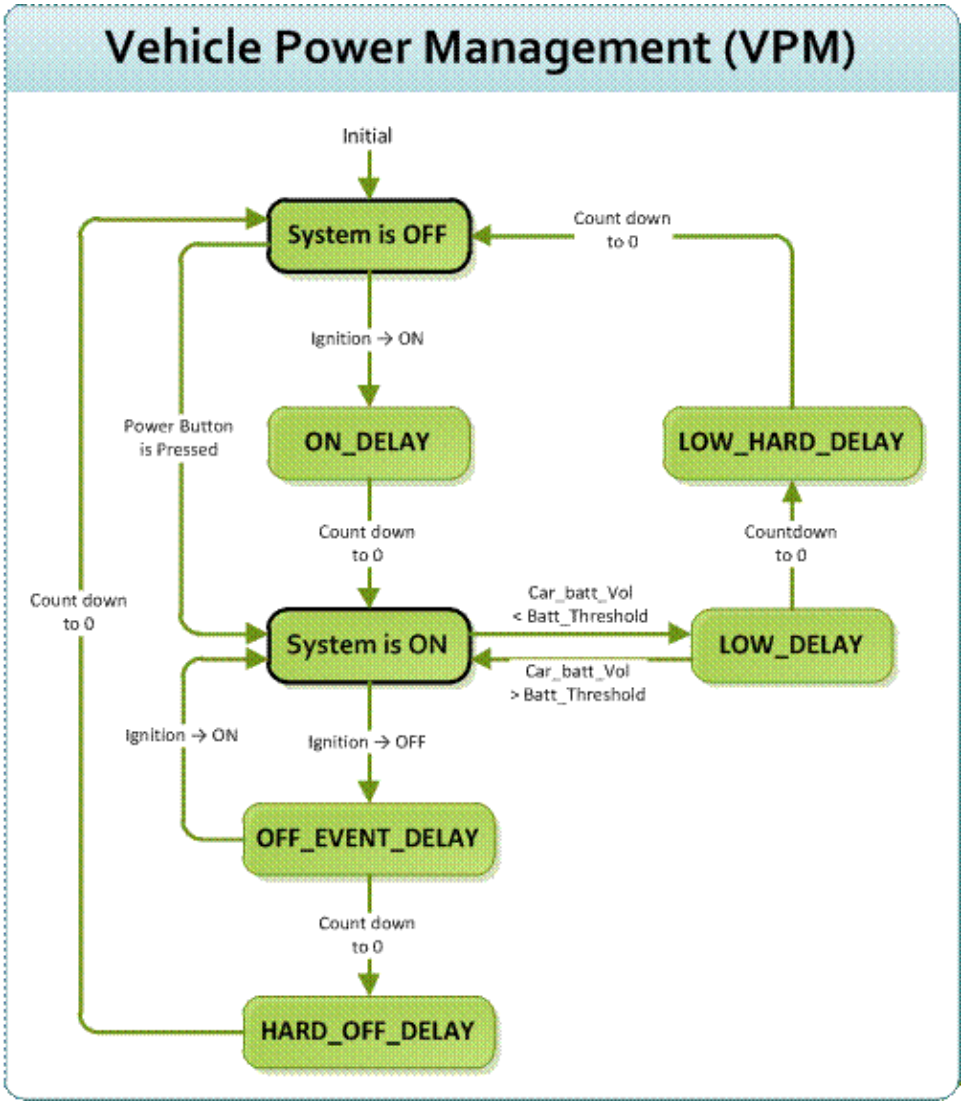
Press “Load Default” to load the stored default values.



4.2.4 Event Delay

4.2.4.1 Power control mechanism

TREK-734 provides VPM features to fulfill specific requirements. The basic mechanism is shown in the following figure.



The power of system can be controlled with the following events:

- **Ignition ON**

The ignition signal can be used to power on or shutdown the system. When the system is in an OFF state and the ignition is turned ON, the VPM controller will countdown a delay period (ON_DELAY). Once it counts to zero, the system will be powered on.

- **Ignition OFF**

When the system is powered on and the ignition is turned off, the VPM controller will countdown a delay period(OFF_EVENT_DELAY). During this period, if the ignition

is switched back to ON, the VPM controller will stop countdown and reset the OFF_EVENT_DELAY. If OFF_EVENT_DELAY counts to zero, the VPM controller will trigger an power off event (i.e. power button press). System and applications which receives this event can do pre-defined tasks, like storing data and preparing to turn off the system.

After the event is triggered, VPM controller starts to countdown next delay period (HARD_OFF_DELAY). If HARD_OFF_DELAY counts to zero, the system power will be cut off abruptly to avoid unexpected

system hang. Aldo, once VPM controller enter the HARD_OFF_DELAY stage, the process cannot be reversed.

- **Low power protection**

To avoid draining power, low-power protection is to ensure that there is enough power

to start the machine. When the system is ON, the VPM controller will monitor the power voltage. If the voltage is lower than the programmable threshold (LOW_THRESHOLD), the VPM controller will start to countdown a delay(LOW_DELAY). During the stage of LOW_DELAY countdown, if voltage

goes back above LOW_THRESHOLD, the VPM controller will stop counting

down and exit.

If LOW_DELAY counts to zero, the VPM controller will trigger an power off event (i.e. power button press) and starts to countdown next delay period (LOW_ HARD_DELAY). If LOW_ HARD_DELAY counts to zero, the system power will be cut off abruptly to avoid draining the power.

4.2.4.2 Demonstration

You can set the delay and hard delay time of the low voltage event and ignition event.

Low Voltage Event

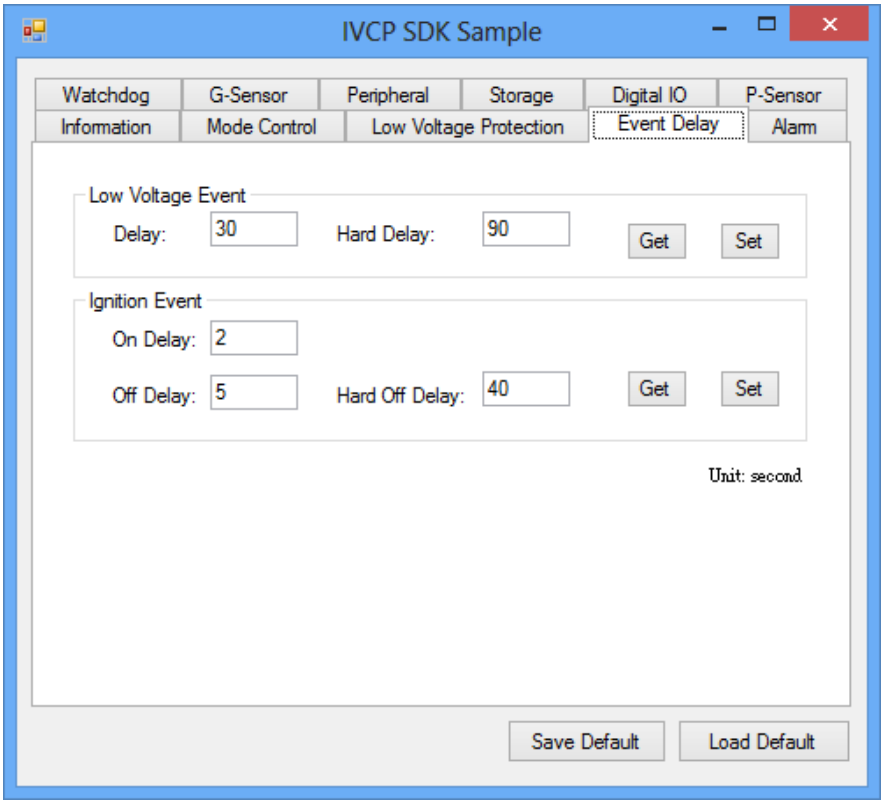
- **Delay:**
  The delay time before VPM trigger a power off event (i.e. power button press).
- **Hard Delay:**
  The delay time counted down after a power off event is triggered. VPM will force power off the machine if the hard delay time is counted down to zero.

Ignition Event

- **On Delay:**
  The delay time before VPM trigger an power on event (power on the machine).
- **Off Delay:**
  The delay time before VPM trigger an power off event (i.e. power button press).
- **Hard Off Delay:**
  The delay time counted after an power off event is triggered. VPM will force power off the machine if the hard delay time is counted down to zero.

Press “Save Default” to set current value as default value.

Press “Load Default” to load the stored default values.

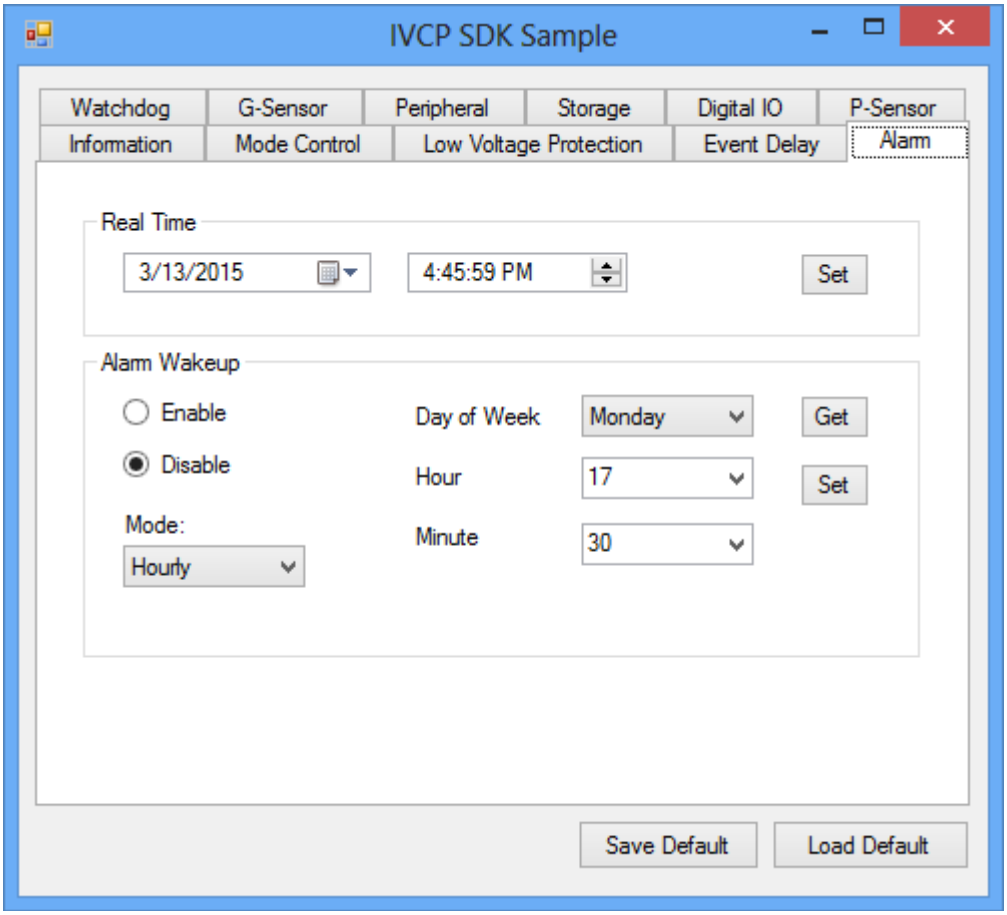


4.2.5 Alarm

In this page, you can set the time and set alarm wakeup time to VPM controller and enable/disable the alarm as a system wakeup source.

Press “Save Default” to set current value as default value.

Press “Load Default” to load the stored default values.



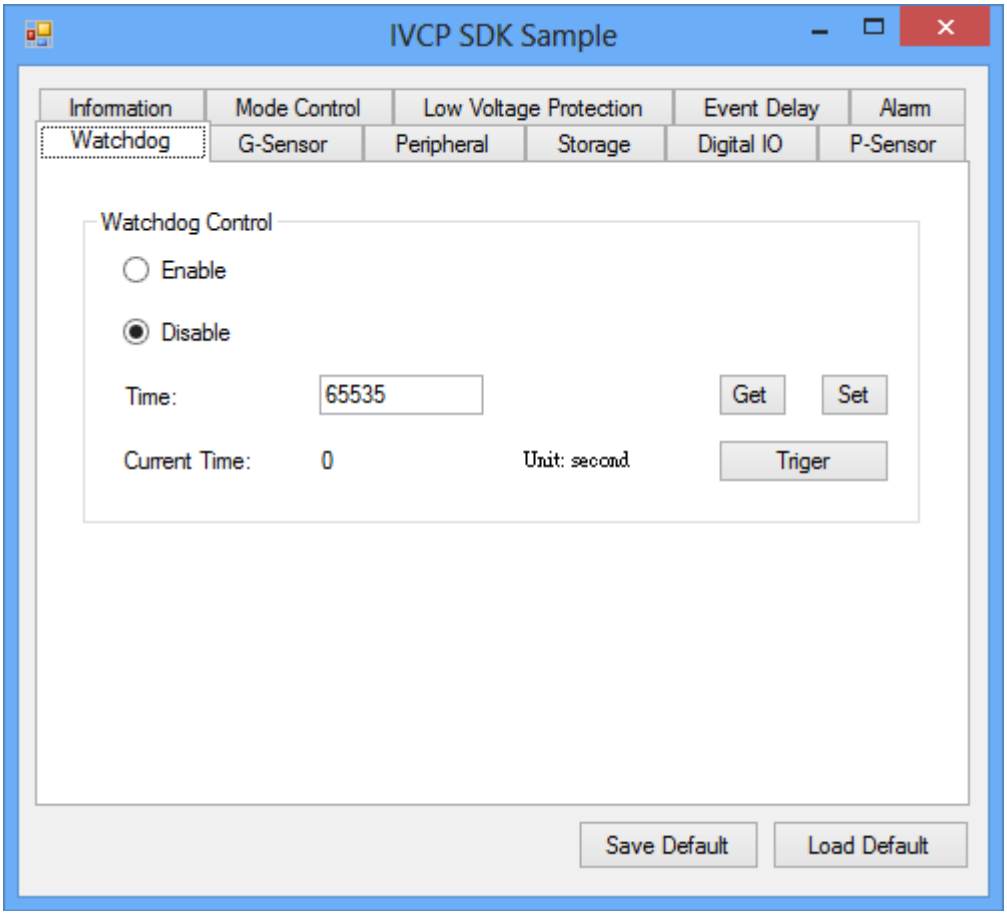
4.2.6 Watchdog

In this page, you can enable/disable the watchdog function and set the count time (second) for the watchdog to avoid unexpected system hang..

When watchdog is enabled, the VPM controller will start counting down the time set for watchdog and power off the machine if it is counted to 0. You can press “Trigger” button while watchdog is counting to reset the count down time and keep it counting.

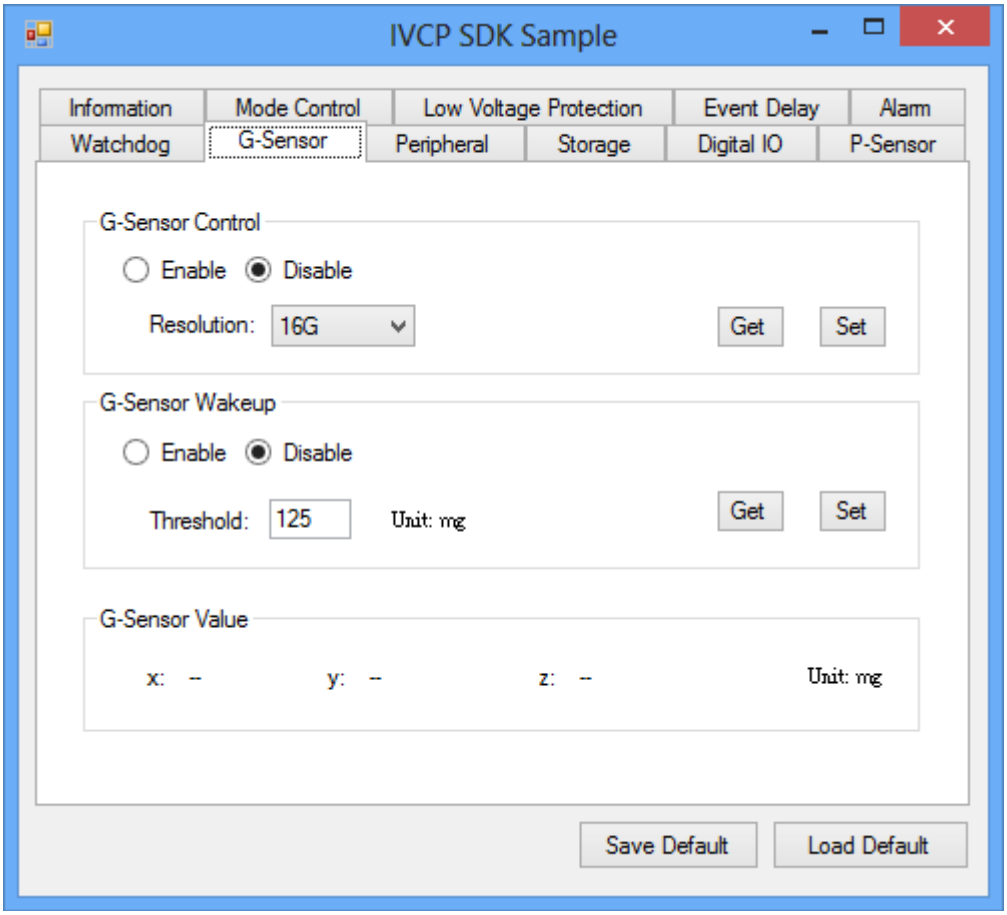
Press “Save Default” to set current value as default value.

Press “Load Default” to load the stored default values.



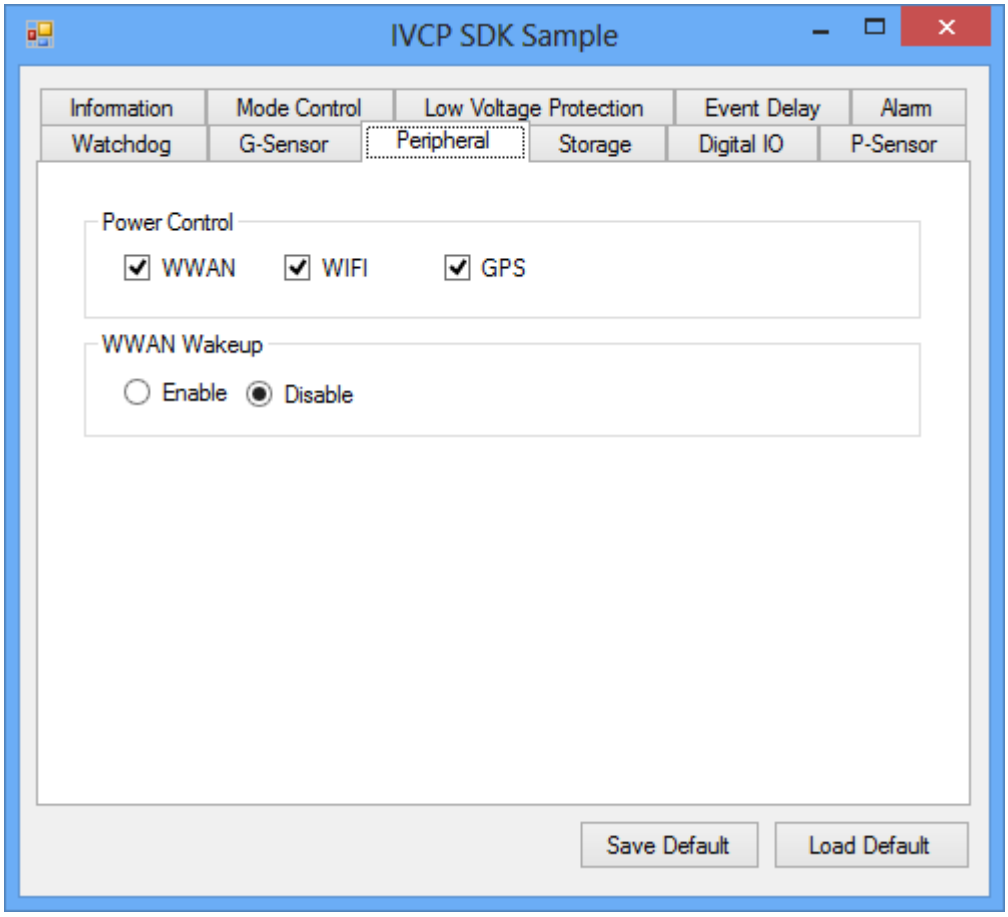
4.2.7 G-Sensor

In this page, you can enable/disable the G-sensor. Also, you can set G-sensor as a system wakeup source and set the threshold to trigger system wakeup.



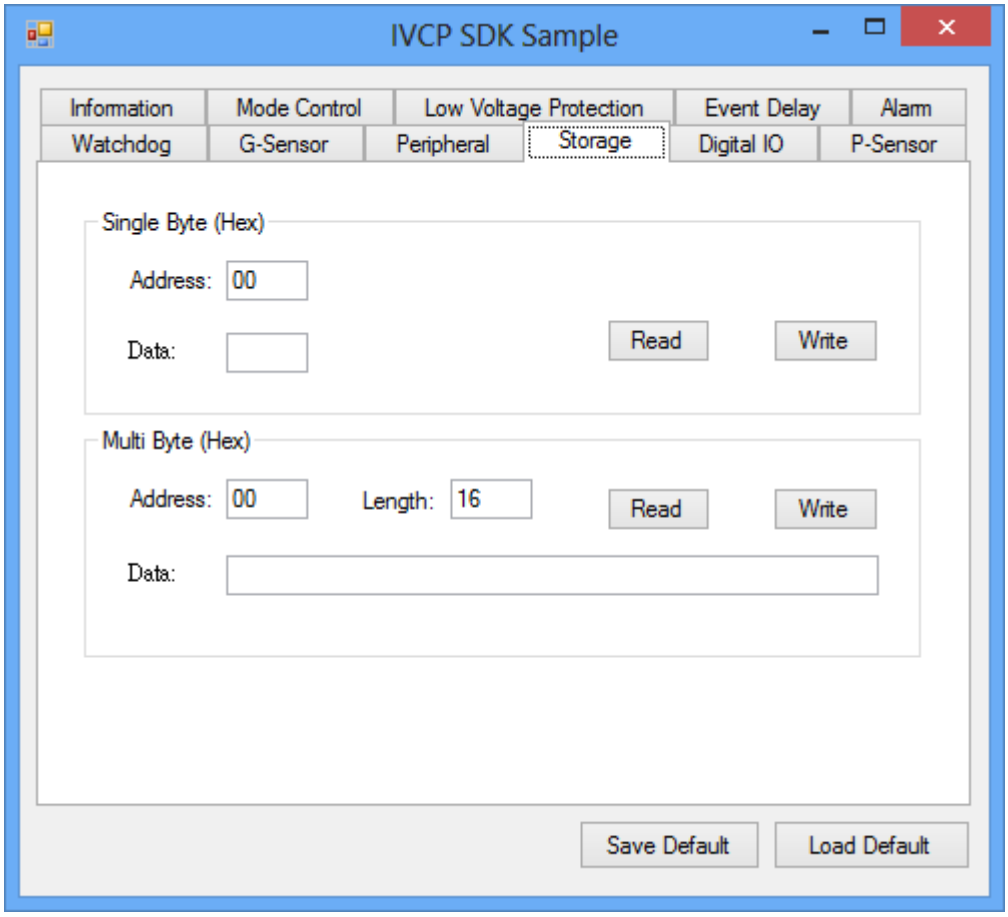
4.2.8 Peripheral

In this page, you can enable/disable the peripheral functions and set WWAN as system wakeup source.



4.2.9 Storage

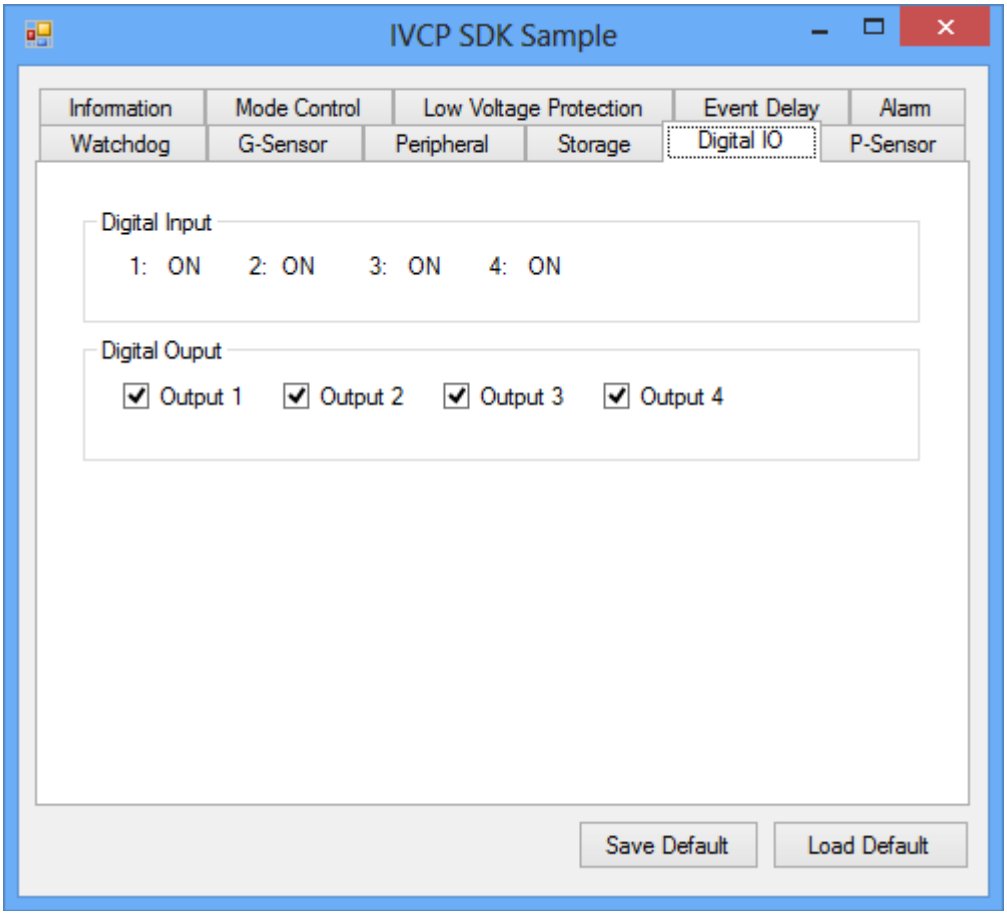
In this page, you can save/load arbitrary data to the private storage (256 byte) on the machine.



4.2.10 Digital I/O

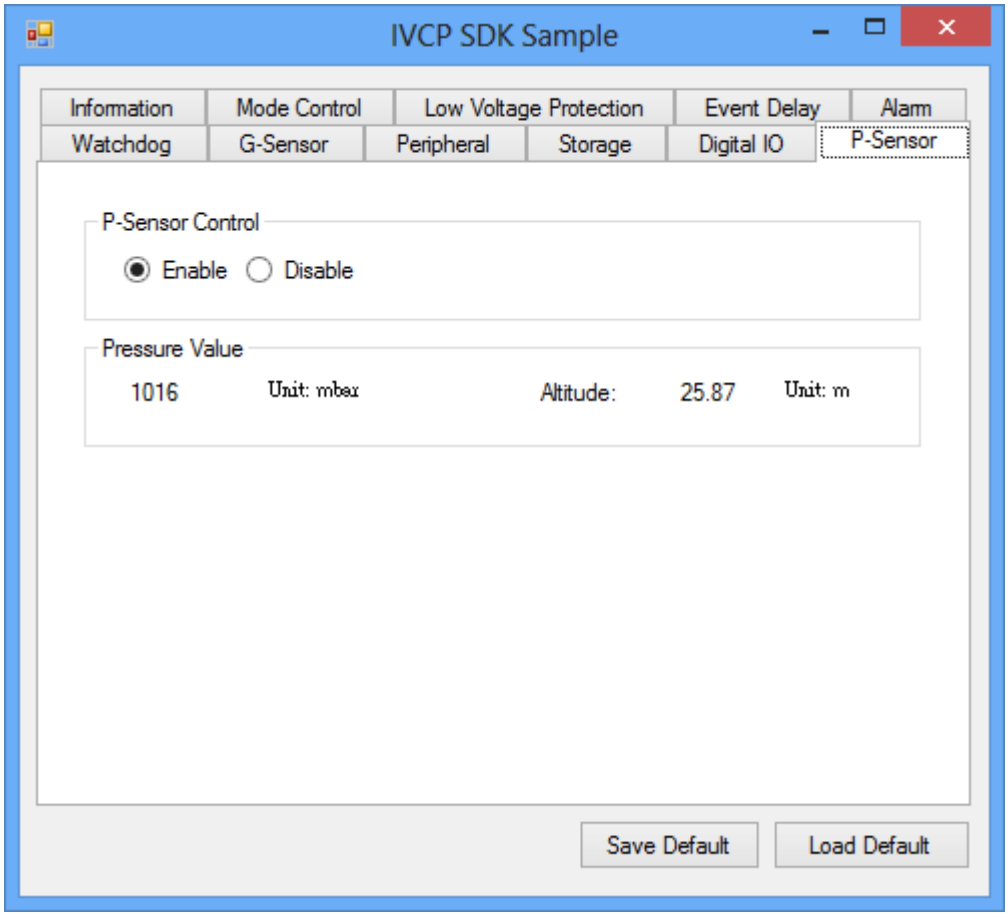
In this page, you can monitor the digital input status and enable/disable digital output.

DI1 default is normal digital input and can be set as dedicated reverse signal input.



4.2.11 P-Sensor

In this page, you can monitor the p-sensor status and enable/disable it.



4.3 VCIL Demonstration

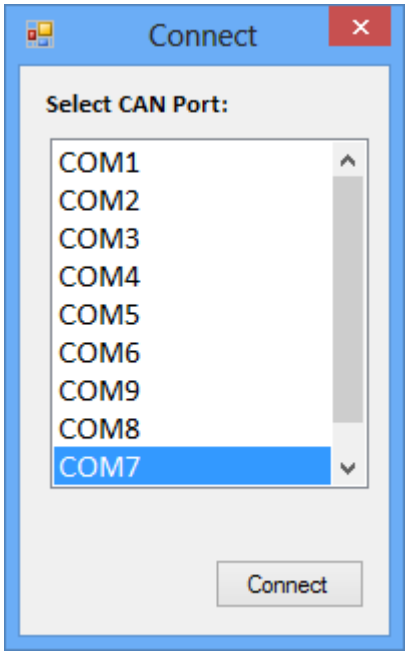
The VCIL demonstration application demonstrate the usage of MRM VCIL (Communication Interface Layer) API which allow user to access protocol easily.

4.3.1 Port selection

When first open VCIL demonstration app, you will see a port selection windows as following.

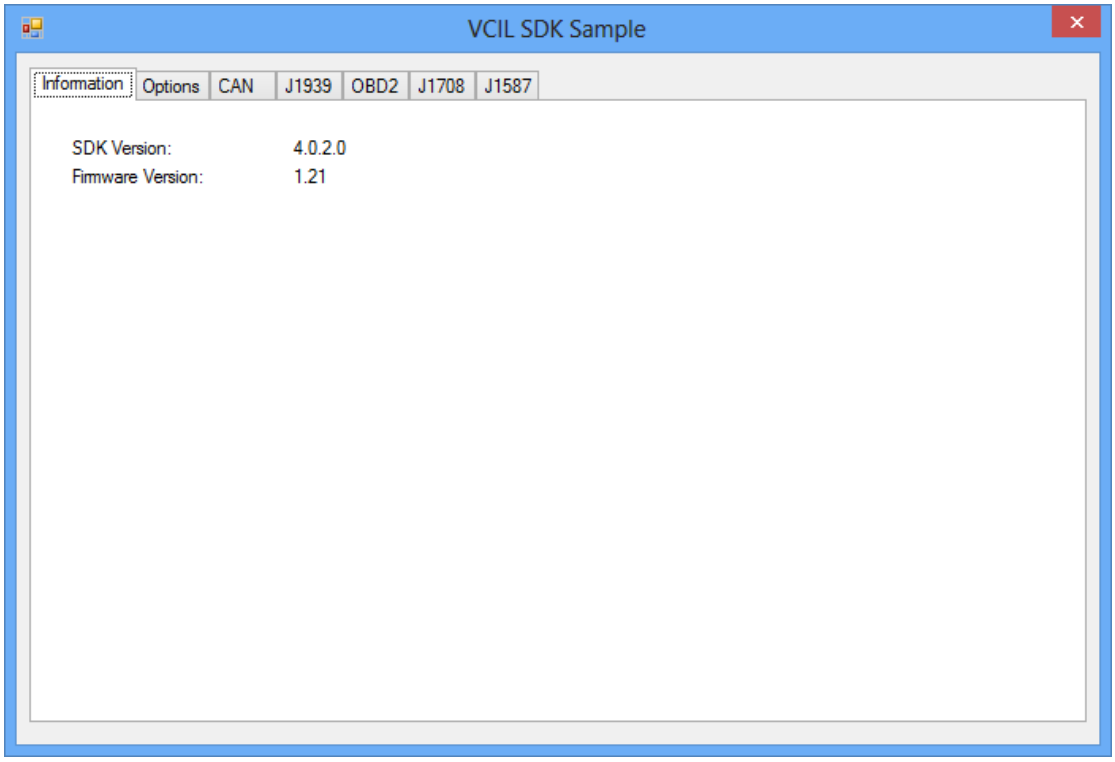
Please select the VCIL port path and press **Connect** button.

VCIL port path in different platforms have different nodes. The common path at Window is **COM7**.


Connect
Select CAN Port:
COM1
COM2
COM3
COM4
COM5
COM6
COM9
COM8
COM7
Connect

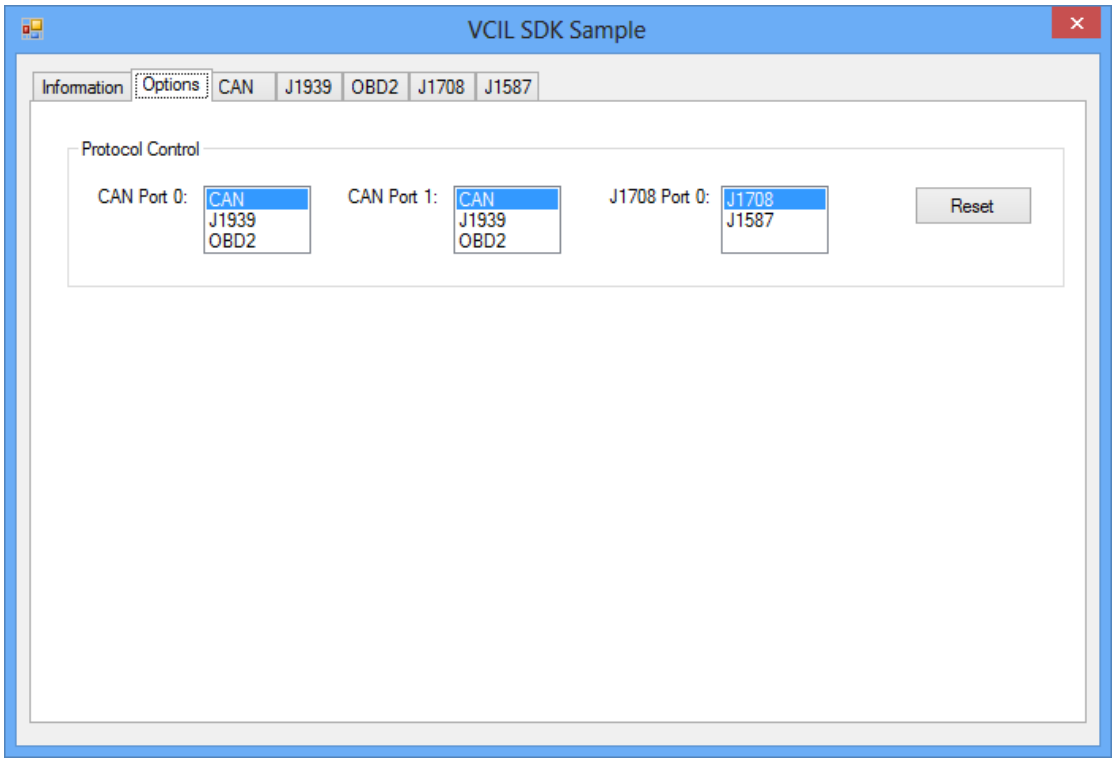
4.3.2 Information

In this page, the demo application shows the current status and basic information.



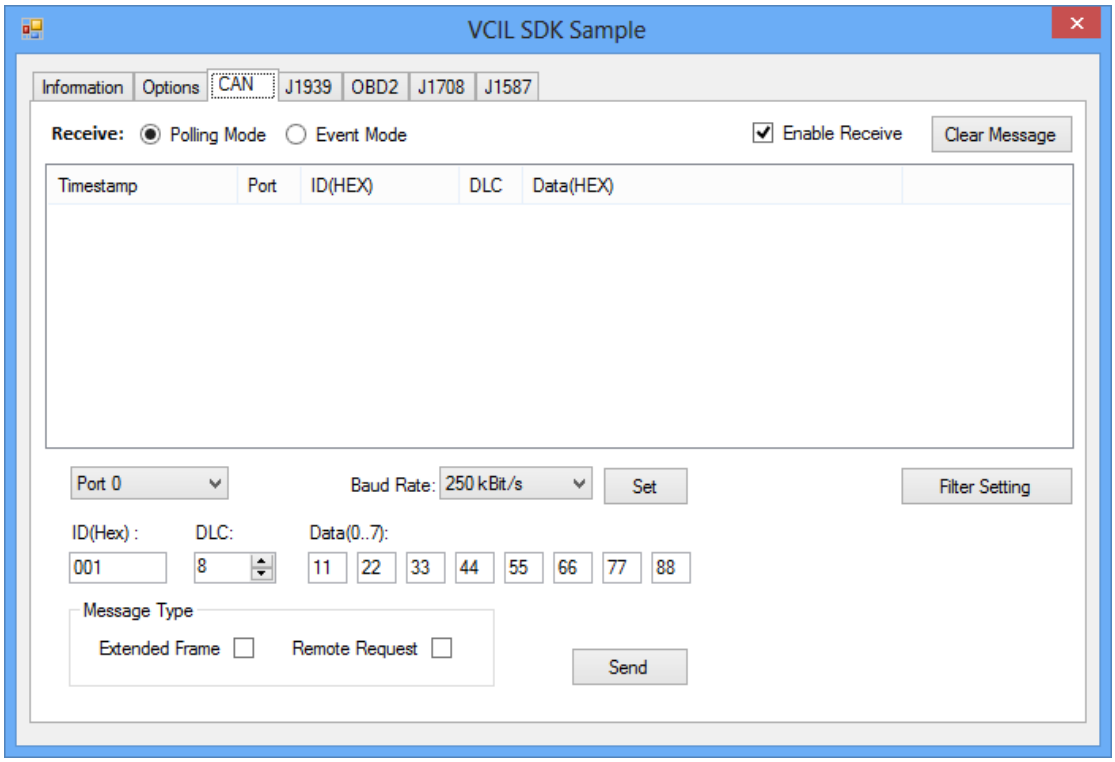
4.3.3 Option

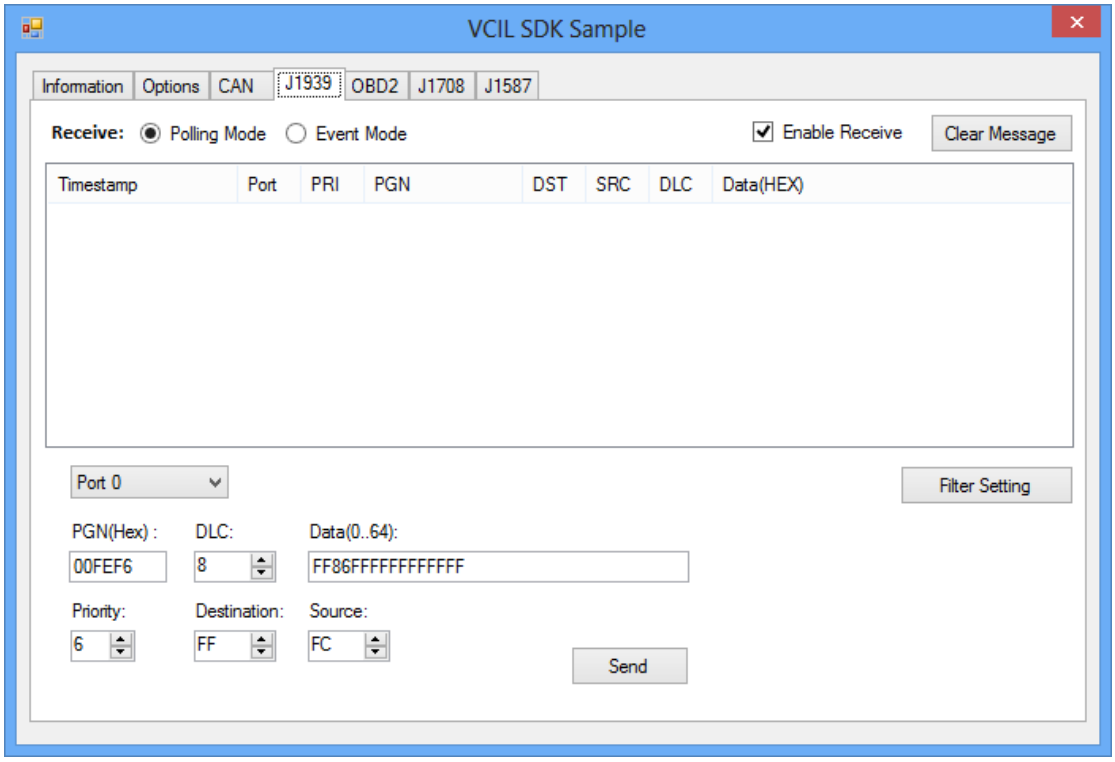
In this page, you can the set the protocol for each port.

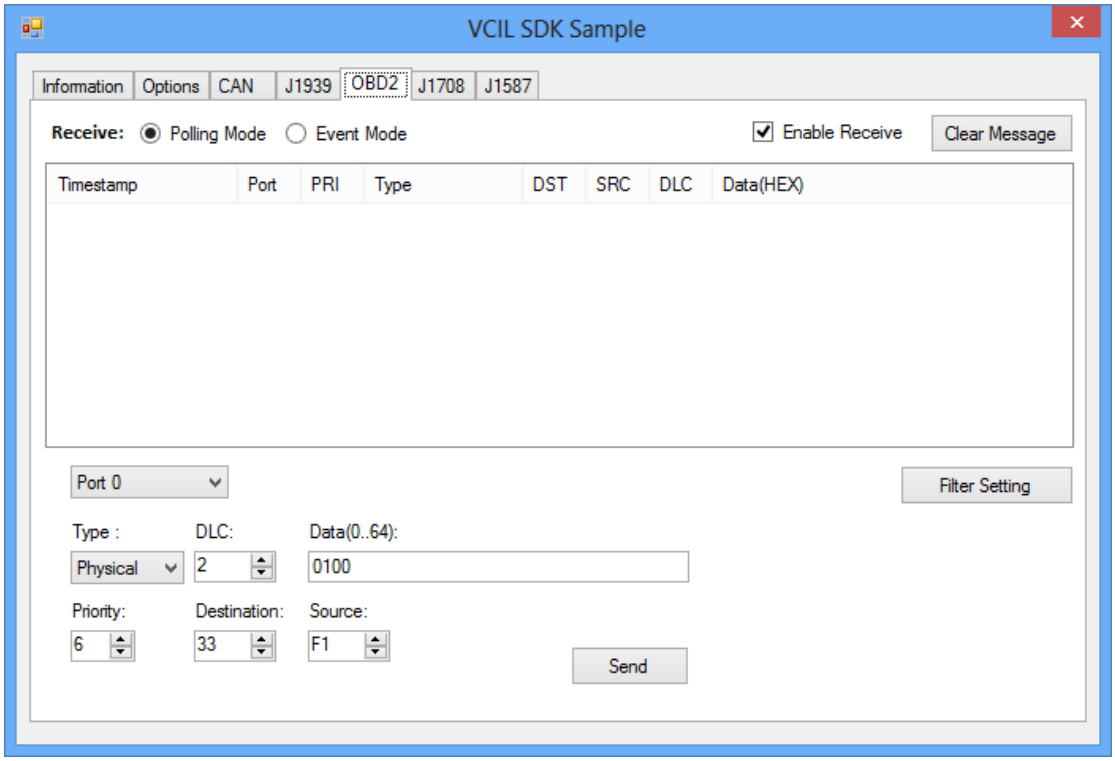


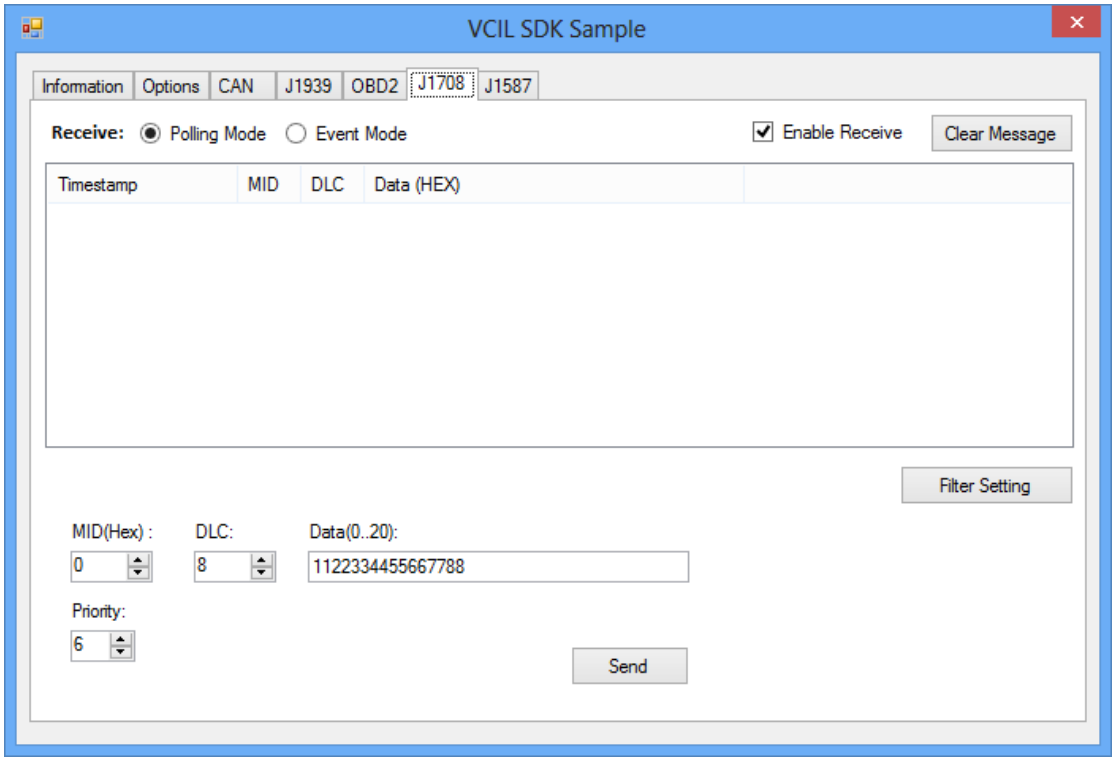
4.3.4 CAN / J1939 / OBD2 / J1708 / J1587

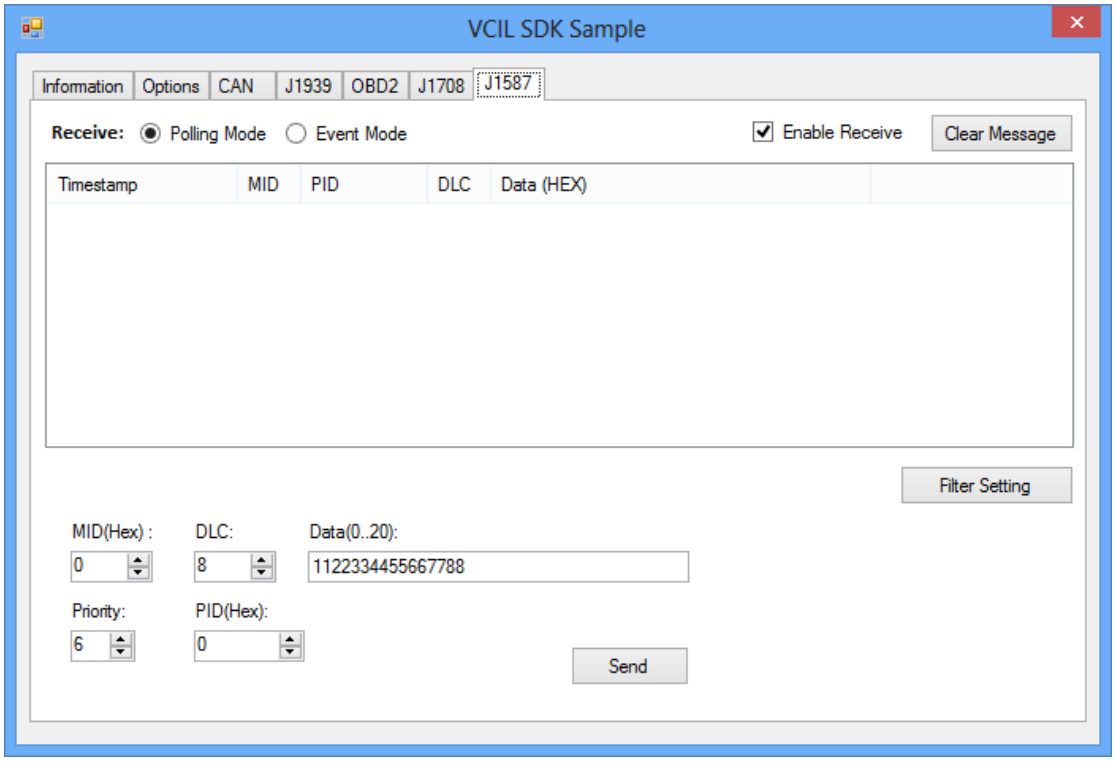
To use CAN / J1939 / OBD2 / J1708 / J1587 protocol on each port, please click on corresponding tab to switch to the page of specific protocol, then you can send/read message on specific port by setting the detail items.






VCIL SDK Sample
Information
Options
CAN
J1939
OBD2
J1708
J1587
Receive:
Polling Mode
Event Mode
Enable Receive
Clear Message
Timestamp
Port
PRI
Type
DST
SRC
DLC
Data(HEX)
Port 0
Filter Setting
Type :
DLC:
Data(0..64):
Physical
2
0100
Priority:
Destination:
Source:
6
33
F1
Send


VCIL SDK Sample
Information
Options
CAN
J1939
OBD2
J1708
J1587
Receive:
Polling Mode
Event Mode
Enable Receive
Clear Message
Timestamp
MID
DLC
Data (HEX)
Filter Setting
MID(Hex) :
DLC:
Data(0..20):
0
8
1122334455667788
Priority:
6
Send

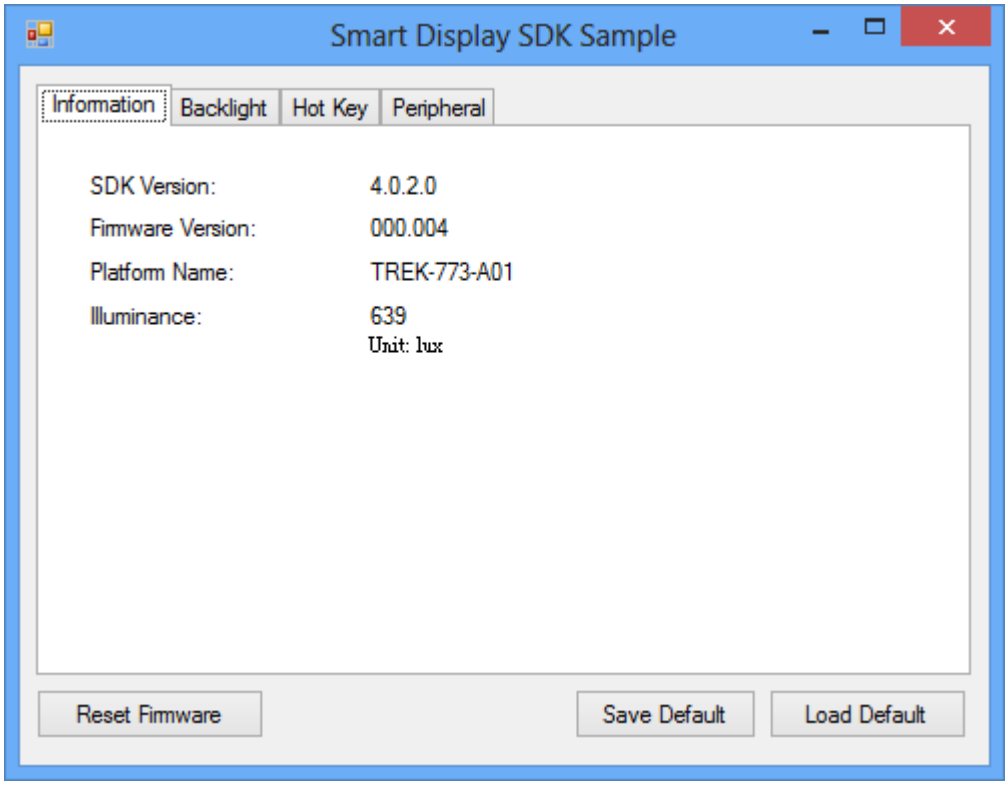


4.4 Smart Display Demonstration

The smart display demonstration application demonstrate the usage of MRM SDP API which is a lightweight interface between OS (Operating system) and SDP (Smart Display Co-Processor) allow user to control the font-end display, backlight setting, hotkey, peripheral control, etc.

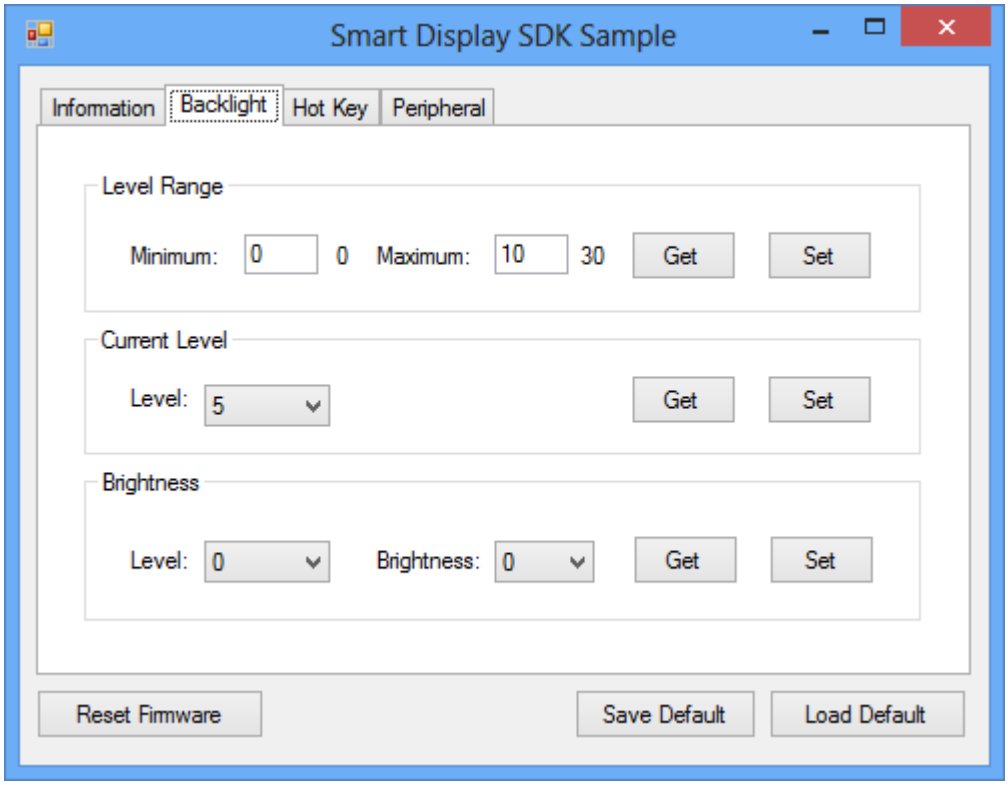
4.4.1 Information

In this page, the demo application shows the current status and basic information.


Smart Display SDK Sample
Information
Backlight
Hot Key
Peripheral
SDK Version:
4.0.2.0
Firmware Version:
000.004
Platform Name:
TREK-773-A01
Illuminance:
639
Unit: lux
Reset Firmware
Save Default
Load Default

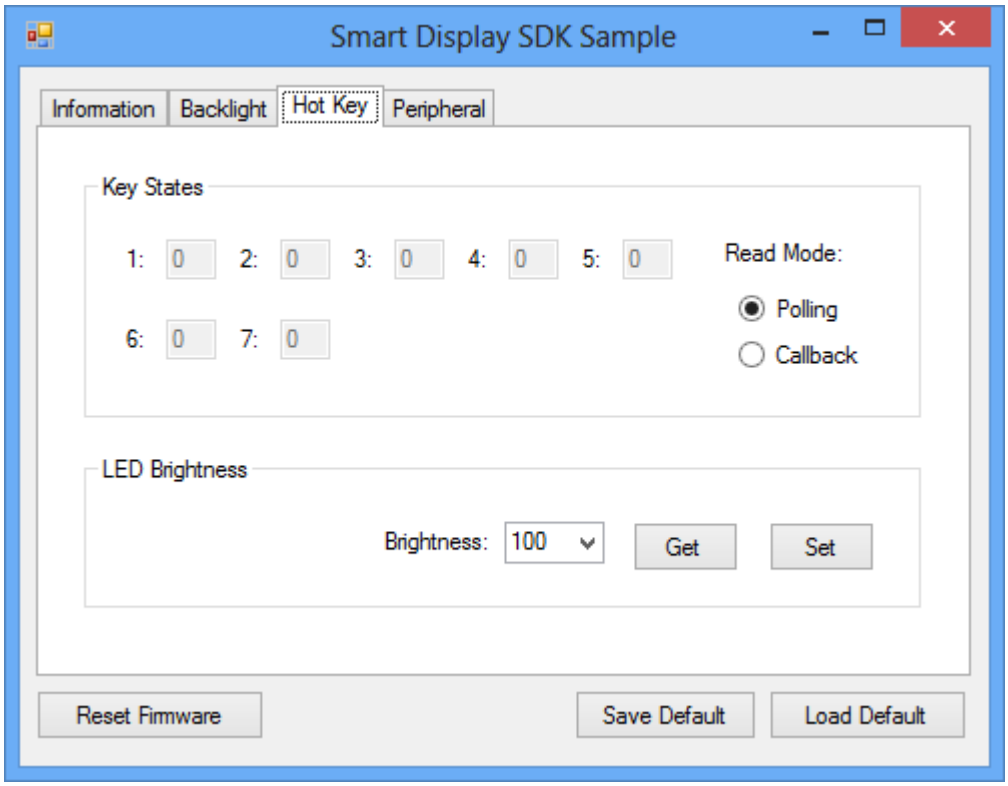
4.4.2 Backlight

In this page, you can set the levels for backlight, the brightness for each level and the current brightness level.



4.4.3 Hot key

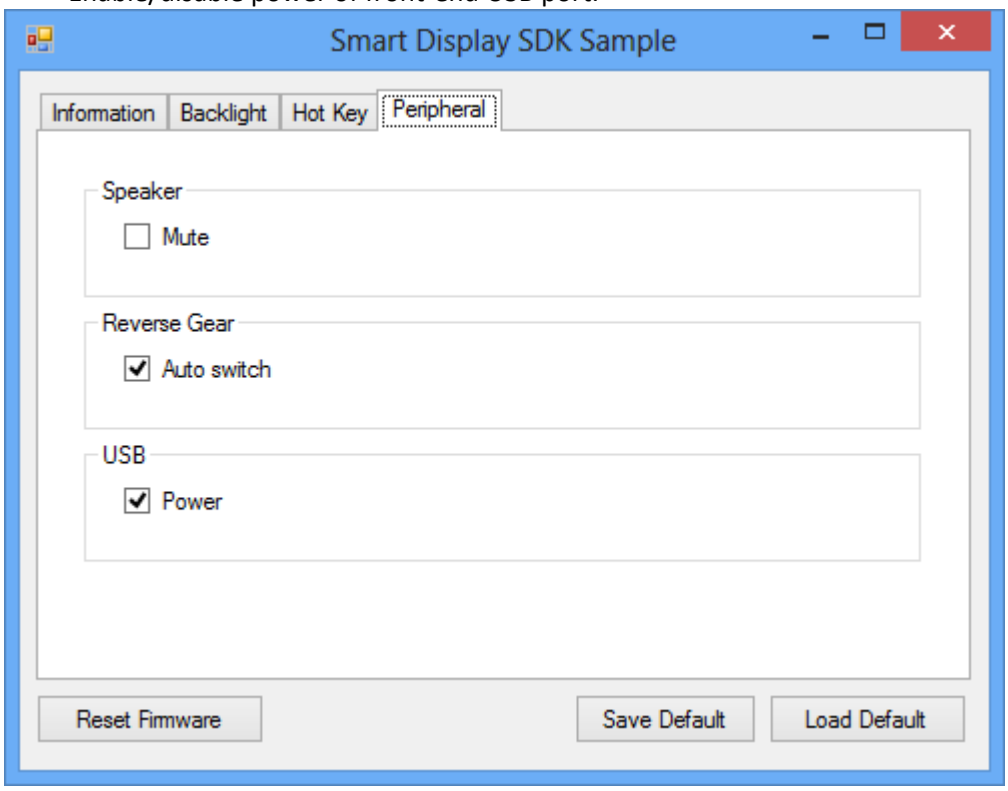
In this page, you can monitor the press state of each hot key and set the LED brightness of the hot keys.



4.4.4 Peripheral

In this page, you can control the status of peripheral devices.

- **Speaker**
  Enable/disable speaker volume.
- **Reserve gear**
  Enable/disable auto switch of display. If enabled, the display will be switched to camera view if reverse gear detected and switched to LVDS view if reverse gear absent.
- **USB**
  Enable/disable power of front-end USB port.



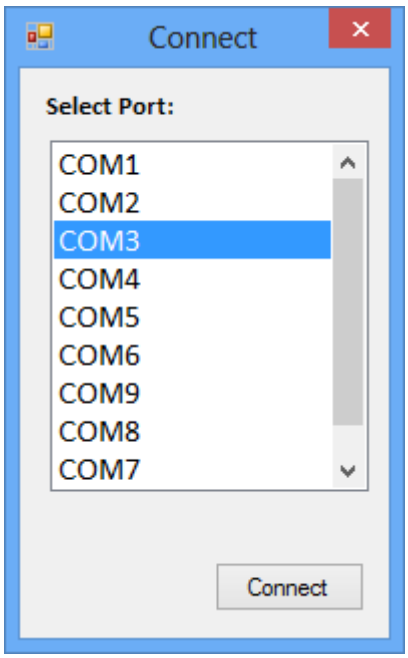
4.5 GPS Demonstration

The GPS demonstration application demonstrate the usage of MRM GPS API which is a lightweight interface between OS (Operating system) and GPS module allows user to easily get GPS information.

4.5.1 Port selection

When first open GPS demonstration app, you will see a port selection windows as following.

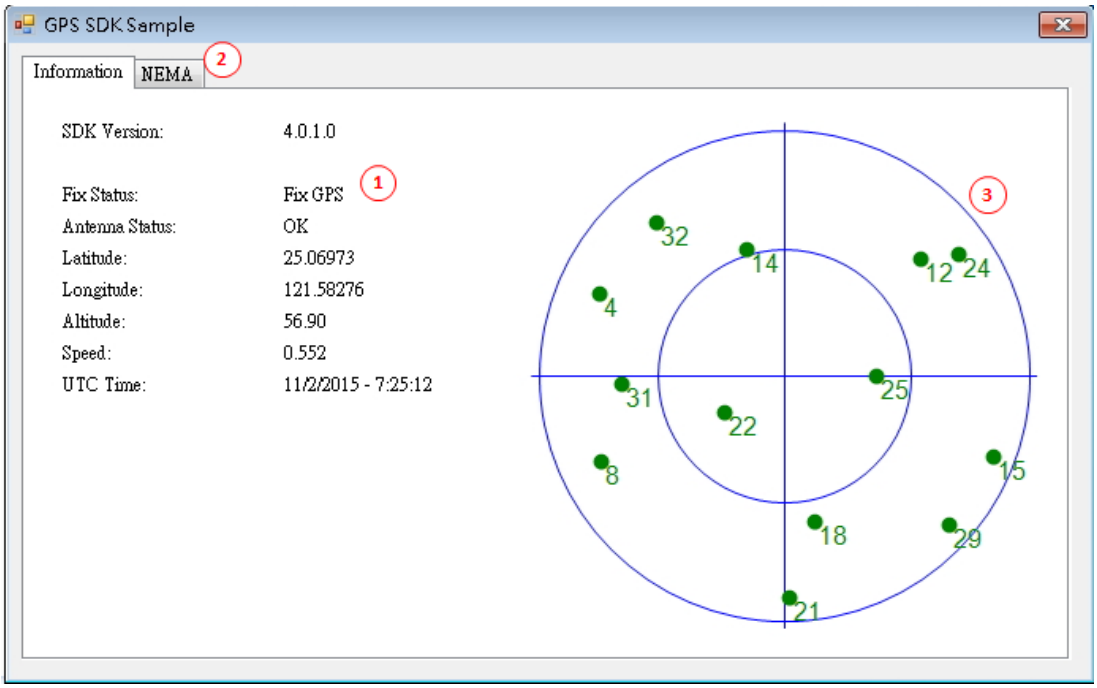
Please select the GPS port path and press **Connect** button. The common path at Window is **COM3.**



4.5.2 Information

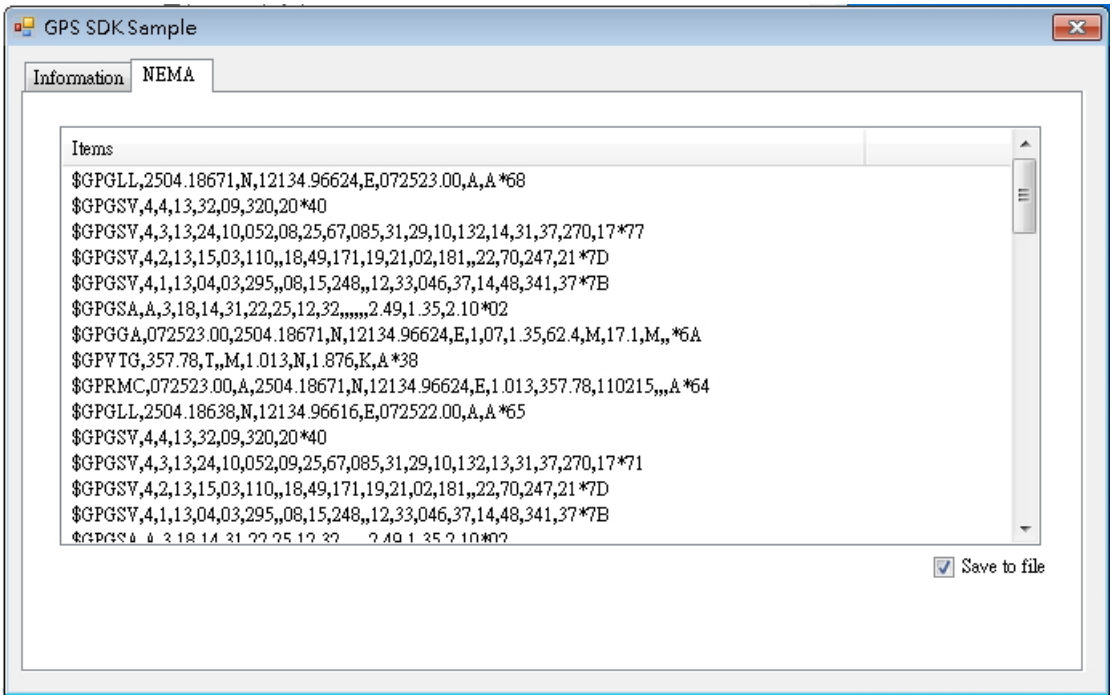
In this page, the demo application shows the current GPS status.

1. GPS Status
2. Function demonstration selection
3. Satellite location Information



4.5.3 NEMA

In this page, the demo application shows the incoming NMEA code. Check ' Save to file ' to logging the NMEA code to file.


GPS SDK Sample
Information
NEMA
Items
$GPGLL,2504.18671,N,12134.96624,E,072523.00,A,A*68
$GPGSV,4,4,13,32,09,320,20*40
$GPGSV,4,3,13,24,10,052,08,25,67,085,31,29,10,132,14,31,37,270,17*77
$GPGSV,4,2,13,15,03,110,,18,49,171,19,21,02,181,,22,70,247,21*7D
$GPGSV,4,1,13,04,03,295,,08,15,248,,12,33,046,37,14,48,341,37*7B
$GPGSA,A,3,18,14,31,22,25,12,32,,,,,,2.49,1.35,2.10*02
$GPGGA,072523.00,2504.18671,N,12134.96624,E,1,07,1.35,62.4,M,17.1,M,,*6A
$GPVTG,357.78,T,,M,1.013,N,1.876,K,A*38
$GPRMC,072523.00,A,2504.18671,N,12134.96624,E,1.013,357.78,110215,,,A*64
$GPGLL,2504.18638,N,12134.96616,E,072522.00,A,A*65
$GPGSV,4,4,13,32,09,320,20*40
$GPGSV,4,3,13,24,10,052,09,25,67,085,31,29,10,132,13,31,37,270,17*71
$GPGSV,4,2,13,15,03,110,,18,49,171,19,21,02,181,,22,70,247,21*7D
$GPGSV,4,1,13,04,03,295,,08,15,248,,12,33,046,37,14,48,341,37*7B
Save to file

Appendix A

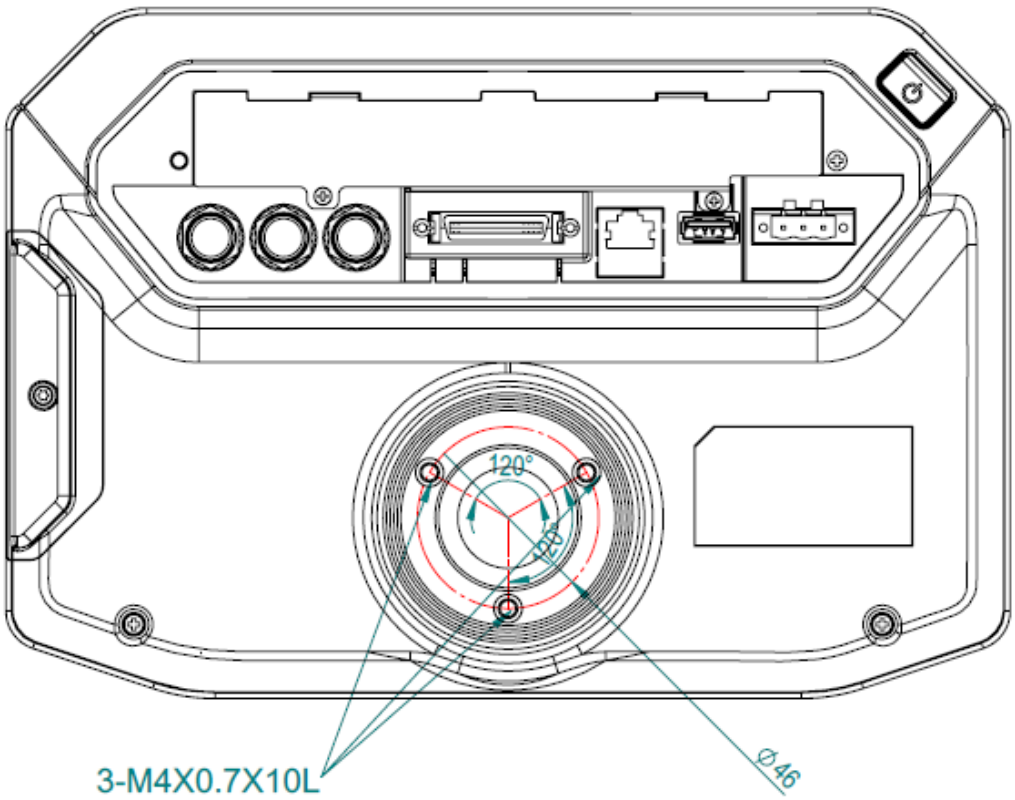
This appendix explains the optional peripherals installation

A-1 Installing Backup battery

A-2 Installing RAM mount kit

TREK-734 designed a RAM mount hole to support ram mount kit. Refer to below dimension. It needs to use 3pcs M4x0.7x10L screws.

TREK-734 using as portrait monitor only.



A-3 Installing IP cover

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