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Safety Precautions

Precautions on Operating Vehicle's ECU

- Do not disconnect the vehicle inner consumer when the ignition switch is on. High voltage transients may encounters at the moment of disconnecting, and thus may damage sensors and ECU.
- Protect the computer from magnetic object (such as wireless speaker)
- Do cut off the power supply of ECU system before welding on the vehicle.
- Pay more attention to ECU and sensors when operation is next to them.
- Ground yourself when you disassemble PROM, otherwise ECU and sensors will be damaged by static.
- Do not use the pointer ohmmeter instead of DMM for testing ECU and sensor without special requirement.
- Do not test electric devices in relation with ECU with a test lamp unless otherwise expressly provided.
- Do wear a metal ground strip that one end around your wrist and the other to the vehicle body when you get in and out the vehicle.
- Do connect ECU harness connector firmly, otherwise electro elements, such as IC inside ECU, will be damaged.

Precaution on Operation

- The X-431IV is a sophisticated electronic device, never have it clashed when in use.
- Main unit screen may flash at the moment engine ignition, it's normal.
- You may unplug the main unit if the program cannot be actuated or confused screen occurs. Plug again to continue the operation.
- Make sure that the X-431IV is properly connected to the DIAGNOSTIC CONNECTOR to avoid communication interruptions.
- X-431IV is equipped with a leather Strap for easy handling when traveling or taking it into a car shop.
- Be careful when plugging and unplugging the main cable and diagnostic connector. Tighten the screw before operation to avoid unexpected disconnecting and/or damage to the port.
- Do not insert and pull out CF card when the X-431IV is working. Press ejector button to pull out the card. Insert the CF in the right place, keep the face labeled "UPSIDE" upward, and make sure the card is fully seated.
- Handle with care and avoid crash. Unplug the power after operation.
- Put the stylus into the slot at back of X-431IV main unit after operation, and place the cables, connectors and other accessories into box.
- Hold the connector and do not pull the power cord when unplug it.
- Use the Cigarette lighter cable to power up, only from the tested vehicle to prevent the ECU from being damaged

Precautions on Vehicle

- Automotive batteries contain sulfuric acid that is harmful to skin. In operation, direct contact with the automotive batteries should be avoided. Pay attention not to splash the sulfuric acid into eyes. Keep ignition sources away from the battery at all times.
- Engines produce various poisonous compounds (hydrocarbon, carbon monoxide, azotes oxides, etc,), which should be avoided.
- Avoid contacting high temperature assembly such as water tank and vent-pipe, as the temperature of the running engine is very high.
- Before starting engine, put the speed lever in the neutral position or in the P position to avoid injury.
- Wear an ANSI-approved eye shield when testing or repairing vehicles.
- If you are using the battery as a power source, connect the RED (+) battery clip to the positive of the vehicle battery and the BLACK (-) battery clip to the negative.

1. Introduction

1.1 General descriptions

X-431IV is a newly developed diagnostic tool, which uses the open operating system of X-431 series and inherits a number of advantages of Launch's diagnosing technology, including a wide coverage of vehicle model, powerful test functions and precise test data, etc.

Meanwhile, X-431IV is equipped with a rotatable diagnostic connector, which makes it more convenient and flexible to use.

Additionally, X-431IV is highly improved in respect of the following:

- **Appearance:** The X-431IV integrates Smartbox, miniprinter and main unit as a whole set, which eliminates the communication failure caused by frequent unplugging and loose connections, and also reduces the communication time between Smartbox and main unit.
- **Core CPU:** utilizes the self-owned high-speed processor chip and integrates signal processing and relay modules.
- **Connector:** The X-431IV has a new SMART OBDII-16E connector to replace all CAN Bus and OBD Connector. The diagnostic connector can be rotated within an angle of 90° and is flexible to use.
- **Performance:** Software structure has been optimized. It runs more rapidly and stably and can directly diagnose without downloading diagnostic programs.

on the X-431IV stands for Car Cloud logo. Car Cloud is a state-of-an-art individual application product, which is newly developed based on our LAUNCH's vehicle diagnostic devices and technology service platform with independent intellectual property rights, mainly providing professional, intelligent vehicle monitoring and diagnosing service for car owners.

Car Cloud website is an portal site and service platform for world-wide automobile aftermarket, which, as one of core Telematics applications, aims to provide data processing and application service for car users and all Telematics service providers of automotive aftermarket by collecting front-end DBS diagnostic data, and combining mobile internet and background cloud processing technology.

1.2 Features

- Diagnose: it can diagnose all electrical control systems of vehicle (including read DTCs, clear DTCs, read datastream etc.)
- PDA: supports handwriting input, personal database, vast vocabulary English-Chinese dictionary.
- Printer: enables you to print all test results.

2. Knowledge of X-431 IV

2.1 X-431IV Component Description

Figure 2-1

2.1.1 Components

They are: X-431IV main unit, SMARTBOX and MINIPRINTER. Each of the three parts has independent function.

X-431IV Main Unit
The X-431IV main unit has all functions of a standard PDA, including personal information management, control panel, game, etc.

Smartbox
SMARTBOX bears all the functions that are essential for vehicle diagnose. SMARTBOX is designed elaborately in its functions for future update (download and update online).

Miniprinter
It is for printing out the test result. Thermal printing paper in size Φ30×57mm (inner hole: Φ7mm) is used.

2.1.2 Components Sketch

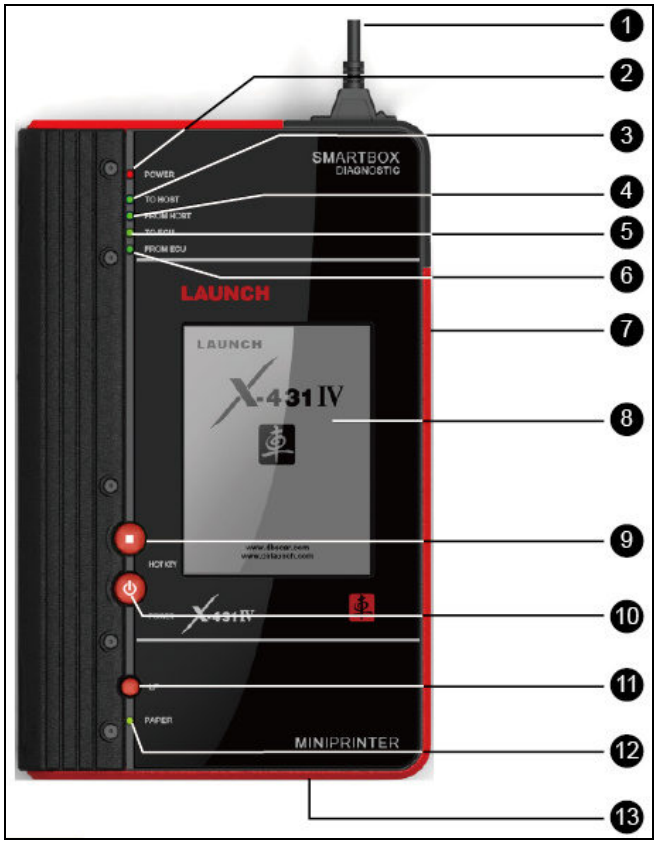


Figure 2-2 X-431IV structure view (Front)

Table 2-1 formulates all keys, ports and indicators of X-431IV front panel.

No.	Descriptions
1	Diagnostic connector (Rotatable)
2	SMARTBOX power indicator
3	Indicator to show SMARTBOX sending data to the main unit
4	Indicator to show SMARTBOX receiving data from the main unit
5	Indicator to show SMARTBOX sending data to ECU
6	Indicator to show SMARTBOX receiving data from ECU
7	Serial port (to connect with PCLINK for extending functions)
8	Touch screen
9	HOTKEY button
10	POWER button
11	Printer LF button（paper feed）
12	Printer ready indicator
13	Paper out (printed the data)

Check and identify working states and defeat point of X-431IV by means of the 4 indicators on the SMARTBOX: There are 4 working state indicators on the SMARTBOX:❸,❹,❺ and ❻ (see figure 2-2), their functions are described respectively as above. It's necessary to check and identify communications

between X-431IV main unit, SMARTBOX and the vehicle's electronic control unit. For example, indicator ❹ should be on when downloading diagnostic program to SMARTBOX, if it's off, it indicates the poor connection between SMARTBOX and main unit or problems in SMARTBOX itself; indicator ❺ should be on when vehicle model has been selected and the SMARTBOX is sending data to the vehicle's electronic control unit; similarly, indicator ❻ should be on during DataStream reading process when SMARTBOX is receiving data from the vehicle's electronic control unit.

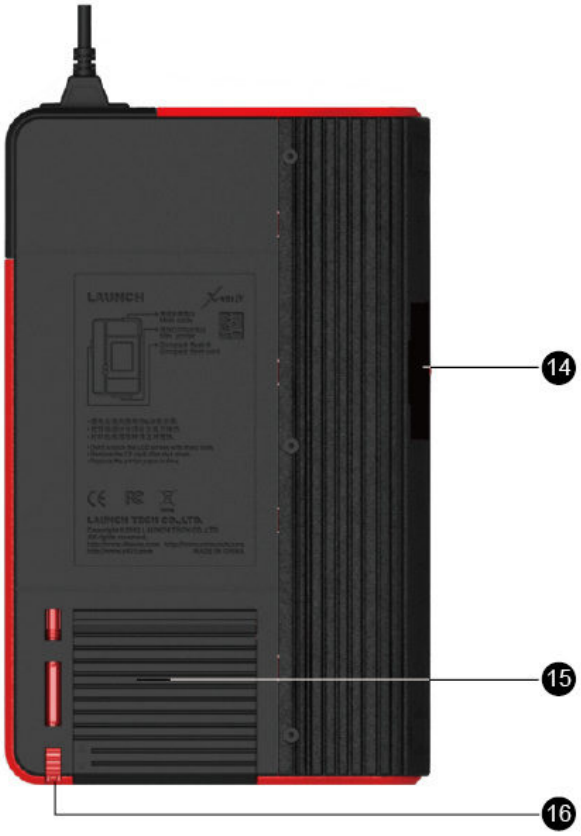


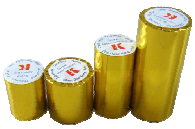
Figure 2-3 X-431IV structure view (Rear)

Table 2-2 formulates all ports of X-431IV rear panel.

14	CF card slot (to install CF card)
15	Printer cover (to install printing paper)
16	Stylus slot (to place the stylus)

2.2 X-431IV Accessory Description

Each unit is supplied with the same universal accessories; X-431IV configurations (such as diagnostic software, diagnostic connectors, etc.) are differed with different users. Users could consult local dealer for the detailed information or check configuration-packing list supplied with X-431IV for the specific configuration. The figure below is for the universal accessories:
The components name and their functions:

No.	Name	Descriptions	Photos
1	CF 卡	To store diagnostic programs and data	
2	CF card reader writer	To read or write data on the CF card	
3	Diagnostic connector	Dozens of connectors are equipped for various vehicles. Here shows a typical one.	
4	Cigarette lighter cable	To get power from the vehicle cigarette lighter	
5	Main cable	To connect the diagnostic connector and X-431IV main unt	
6	Stylus	Click or write on the screen with the stylus	
7	Thermal paper	For printing	

2.3 Technical Specifications

- Operating System: LINUX
- Memory: 16M
- CF Card: 1G
- Main Unit I/O: Universal Serial Bus /Standard Parallel port
- Main Unit Voltage: DC12V
- Main Unit Power: approximately 9W
- Printer: Thermal mini-printer
- Display Screen: 240X320 LCD with touch screen and backlit
- Ambient temperature: 0-50
- Relative Humidity: <90%
- Dimension: 198mm×316mm×55.5mm

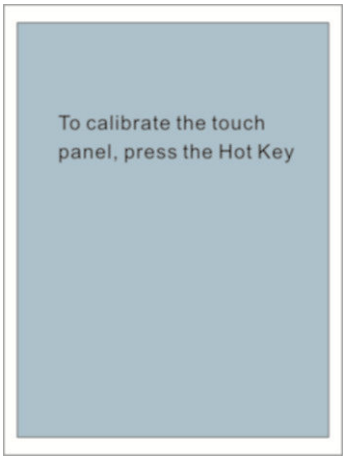
2.5 X-431IV Initial Use

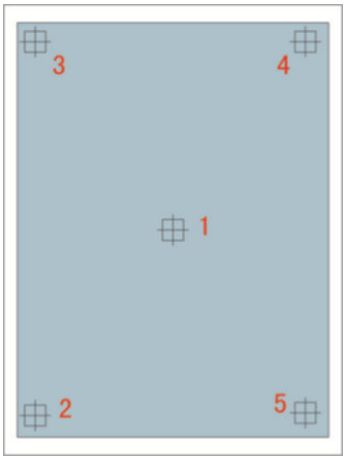
2.5.1 X-431IV Starts

Plug in X-431IV main unit and press [POWER] key on the main unit, the screen will display initializing interface. After initialization completes, the system will prompt you whether to calibrate touch screen.

Press [HOTKEY] to begin calibrating, otherwise the system will enter the main menu interface. Use the stylus to click the target cross on the center of the screen accurately in order. Once it changes, you complete a calibration. Recalibration is not required until the screen gets a slow response or becomes missed.

Note: It is recommended to use the stylus to make calibrations. Numberings marked in the right figure indicate the calibration sequence and it does not appear on the screen.





2.5.2 Taskbar

There is taskbar at the bottom of each operation interface of X-431IV, and includes several icons, as shown in the left figure, their functions are described as below:

'Start' Button: the same as Windows. Click it with stylus to pop up Start menu, which includes the main functions of X-431IV, see chapter 3 and 4 for details.

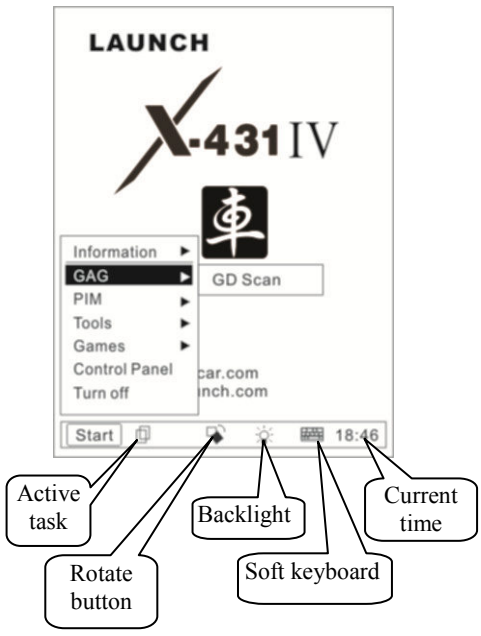
'Active Task' icon: click to display current interface or shift among different interfaces;

'Rotate' button: rotate the interface 180 degrees for easy operation, see chapter 'Rotate' for details.

'Backlight' icon: light on or light off the backlit

'Soft Keyboard' icon: display or hide the soft keyboard, when the soft keyboard is activated, there are 3 input options: handwriting, English input and Chinese input (see chapter 'Input' for details)

'Current Time' icon: see chapter 'Date/Time' for time setting.



2.5.3 Rotate

Sometimes, you need to convert the perspective for easy operating, button [ ] could achieve it by rotating the interface 180 degrees, as shown in the below figure.

Press [ ] button to perform rotate function, interface displayed before and after clicking the button as shown on the left, click again to resume the interface as shown in the top left figure; click to rotate the interface at any working states, while the operation and function of each button remains the same as before.

2.5.4 Input

Note: Please activate the soft keyboard with stylus before inputting; make sure to use the stylus in the subsequent operations.

Use Soft Keyboard

1) Activate and hide the soft keyboard

Click icon at the bottom of the screen with stylus to activate soft keyboard, click again to hide it.

2) Input by soft keyboard

You have 2 ways to input by soft keyboard: one is to input with stylus instead of finger input on common keyboard; the other is to input by handwriting. Input method differs for different languages.

When in simplified Chinese, click [En] to shift from English input to Chinese input [Ch], click [Ch] to shift from Chinese input to handwriting [Hw], and click [Hw] to shift from handwriting input to English input.

When in Chinese input, the association functions of X-431IV will facilitate your input by inferring the words you

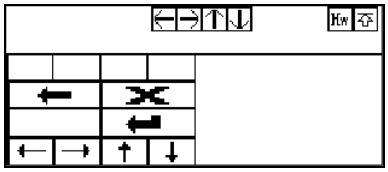
3) Function keys

There are 4 function keys at the upper right of the keyboard they are DBC/SBC case, punctuation, keyboard input/handwriting and the soft keyboard position (you can choose to have it displayed at the upper or lower position in the screen) from left to right.

The four function keys at the upper-middle position of the screen are for moving the cursor leftward, rightward, upward or downward.

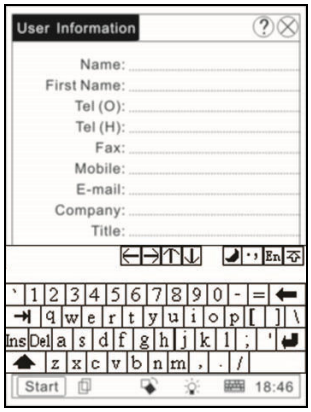
In keyboard mode, the key at the bottom left corner of the soft keyboard is [Shift] button, click it with stylus to shift lowercase letter to uppercase letter, and number keys shift to special symbols; the white key at the bottom right corner of the keyboard is the space key.

In handwriting input, there are 8 function keys at the lower-left position of the soft keyboard. The 4 keys at the bottom to perform moving the cursor left ward, rightward, upward and downward; the functions of the other 4 buttons from left to right and from top to bottom are described as followings: to delete the first character before the current cursor, clear handwriting, space and return.



Input by Keyboard

1) Open an interface, says User Information;
2) Click the soft keyboard icon in the Toolbar to activate the soft keyboard;
3) Click characters on the soft keyboard with stylus to input data.



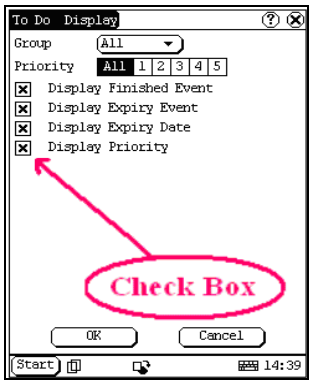
Input by handwriting

1) Open an interface, say memo;
2) Click [New] button;
3) Click the soft keyboard icon in the toolbar to activate the soft keyboard
4) Click function button to shift to handwriting input (see chapter 'Use Soft Keyboard' for details);
5) Write on the whiteboard to the right of the soft keyboard with the assistant of the function keys.

2.5.5 Control of the Application

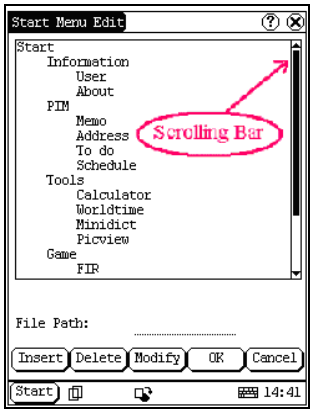
Check Box

Click the check box to select functions. The selected functions will be marked with [×] in the checkbox, and the function description is provided on the right of the checkbox. More than one function could be selected at a time.



Scrolling Bar

Usually, the scrolling bar is on the rightmost of the screen, click or pull it to operate. Use the scrolling bar for view if the content could not be fully displayed in one page.



Common Buttons

1) ⊗ Button at the top right of the screen: click it to quit a current interface or give up editing in default;
2) ⍰ Button at the top right of the screen: click it to display online help for the current interface.
3) [Cancel] Button: click to quit the current interface or give up editing in default.

2.5.6 Online Help

Click ⑦ button or [help] button to get 'help' information for the current interface.

2.5.7 Load thermal paper

The mini printer applies thermal paper roll with size of Φ30×57mm. Follow the steps described as below to load it.

◆ **Install thermal paper**

1) Push the printer cover out and open it as indicated on Fig. a & b.

Figure a

Figure b

2) Place the unpacked thermal paper into the compartment with its starting end approaching to the paper outlet (see Fig. c). Reversing paper direction will cause that no results will be printed out.

Figure c

3) Pull out some printing paper and introduce it along the slot until it comes out of the paper outlet shown as Fig. c. Otherwise paper can not be fed.
4) Close the paper cover. See Fig. d.

Note: The thermal paper should be prevented from being heated before printing, otherwise, the paper would be no longer effective or printing results disappear.

◆ **Print test result**

After loading the thermal paper, press [LF] key to check whether the paper can be fed normally. When the [PAPER] indicator is on, it indicates that the printer is ready. Click the [PRINT] button (if it appears) on the screen of X-431IV main unit to print the test result.

Table 2-3 Function description of printer keys

[PAPER]	Ready indicator. When it is on, mini printer works properly; if is off, printing operation can not be executed.
[LF]	Paper line feed key

3. Vehicle Diagnosis

3.1 Preparation and connections

3.1.1 Preparations

1. Conditions for Test

1). Turn on the vehicle.
2). The voltage of vehicle battery should be 9 - 37V. The rated voltage of the X-431IV is 12V.
3). The throttle should be in the closed position.
4). Ignition timing and idle speed should be within specification range, water and transmission oil temperature is in normal working range (water temperature is 90 – 110°C and transmission oil temperature is 50 – 80°C).

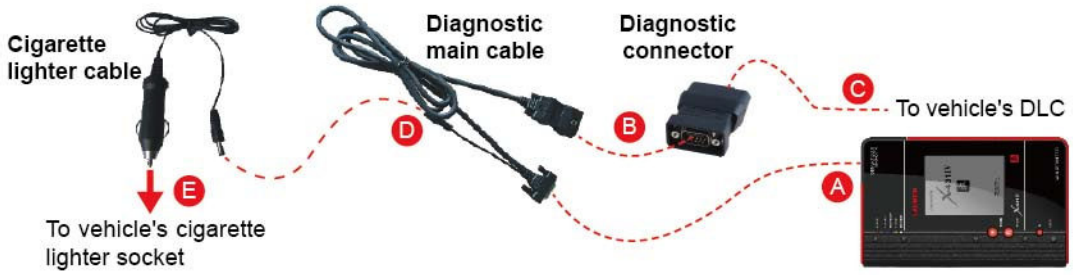
2. Location of the DLC on the vehicle

The location of DLC varies for different vehicle make.

3.1.2 Connections

Before diagnosing a vehicle, please make sure the following connections are properly made:

1. Open the CF card slot and plug the CF card into the slot firmly with "UP SIDE" facing up;
2. Connect one end of the diagnostic main cable to diagnostic port of X-431 IV (A), and the other end to one end of the selected diagnostic connector (B).
3. Connect the other end of diagnostic connector to the vehicle's DLC (C).
4. Plug one end of the cigarette lighter cable into the cigarette lighter cable jack (D) and the other end to the cigarette lighter socket (E) to obtain power.



Note: If the power supply on vehicle diagnostic socket is insufficient or the power pin is damaged, you can get power from the following ways:

1. ***From cigarette lighter: insert one end of the cigarette lighter cable into the lighter socket in vehicle and connect the other end to the power connector of X-431IV main cable.***
2. ***From battery: clamp the two clips of battery cable on the positive and negative poles of battery and insert another end of the cable into the power connector of X-431IV main cable.***

3.2 Start to diagnose

The vehicle makes, vehicle models and systems covered by X-431IV is increasing, please log in http://mycar.dbscar.com/pad/ for the updates and download diagnostic program of the latest version.

3.2.1 Enter diagnostic program

After connection, press [**POWER**] key to start X-431IV.
After starting the main unit, press [**HOTKEY**] (or click [**START**] button on the main menu, and select [**GAG**]→[**GD Scan**] on the pop-up menu), the screen will display the home page of vehicle diagnosis as shown in Figure 3-1.

Figure 3-1

Button descriptions:

- ***[QUIT]: to exit the diagnostic program.***
- ***[BOX INFO.]: to display hardware and software version of SMARTBOX.***
- ***[HELP]: to display help information.***
- ***[START]: to proceed to the next step.***

Click [**START**] button, the screen will display **the vehicle make menu** as shown in Figure 3-2.

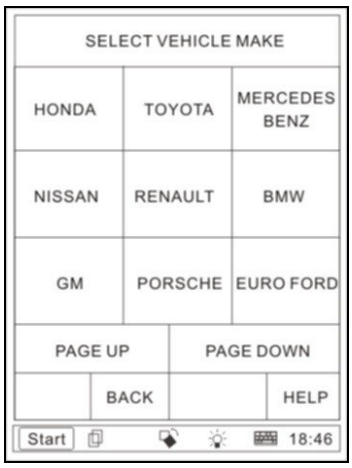


Figure 3-2

Button descriptions:

- ***[BACK]: to return to the previous interface.***
- ***[PAGE UP]: to display the previous page, it is inactive if the current page is the first page.***
- ***[PAGE DOWN]: to display the next page, it is inactive if the current page is the last page.***
- ***[HELP]: to display the help information.***

Click the icon of DEMO on the vehicle make menu. The screen will be displayed as shown in Figure 3-3.

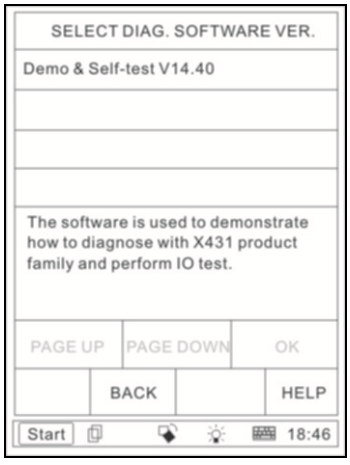


Figure 3-3

Button descriptions:

- ***[BACK]: to return to the previous interface.***

- ***[HELP]: to display the help information.***

Click [**Demo & Self-test V14.40**]. The display will be as shown in Figure 3-4.

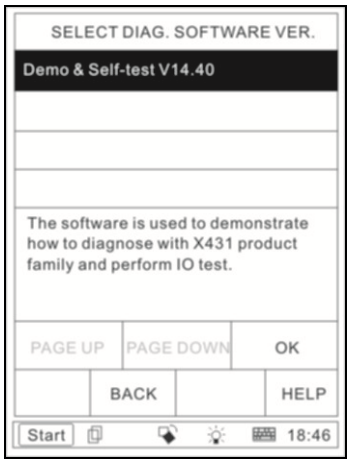


Figure 3-4

Click [**OK**] button, the screen will display the information as shown in Figure 3-5.

Figure 3-5

Note: The test operation for different systems is similar. Here we take [Engine] as an example to describe.

Button descriptions:

- ***[HOME]: to return to the homepage of vehicle diagnosis.***
- ***[BACK]: to return to the previous interface.***
- ***[PRINT]: to print the test result.***
- ***[HELP]: to display the help information.***

Click [**Engine**] button, the screen will display the information as shown in Figure 3-6.

Figure 3-6

After communication is initialized, the screen will display the information as shown in Figure 3-7.

Figure 3-7

3.2.2 Read trouble code

Click [Read trouble code] in the function menu, X-431IV starts to test the fault code. The screen will display the test result when the test is finished. Figure 3-8 is an example of a test.

Figure 3-8

Button descriptions:

- ***[HOME]: to return to the homepage of vehicle diagnosis.***
- ***[BACK]: to return to the previous interface.***
- ***[PRINT]: to print the test result.***
- ***[HELP]: to display the help information.***

Click [BACK] button to return to the function menu.

3.2.3 Clear trouble code

Click [Clear trouble code] in the function menu, X-431IV starts to erase the fault code. The screen will display the residual fault code after erasing.

Figure 3-9

If all fault codes are erased or there is no fault code in the tested system, the screen will be displayed as shown in Figure 3-10.

Figure 3-10

Click [OK] button to return to the function menu.

3.2.4 DataStream Record Function

The save and display functions of DataStream enables you get the history DataStream and they are very important when asking for technical support and for troubleshooting.

3.2.4.1 Save DataStream

Selected [Read data stream] function, as shown in Figure 3-11.

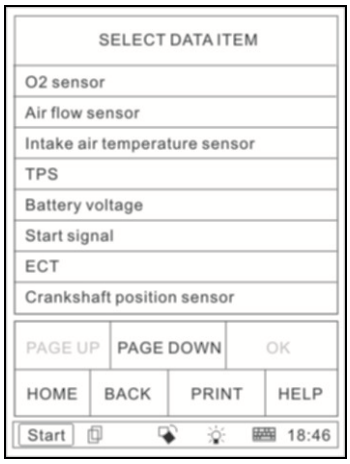


Figure 3-11

Select the desired stream item as shown in Figure 3-12.

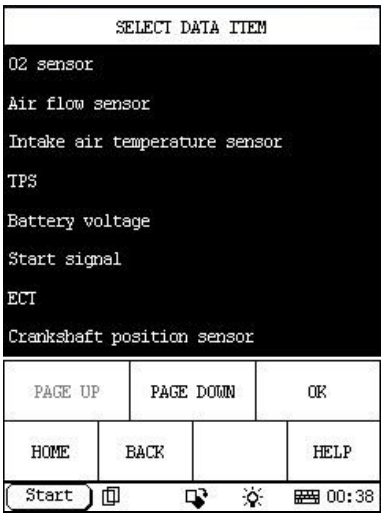


Figure 3-12

Click 'OK' to show the data, as shown in figure 3-13.

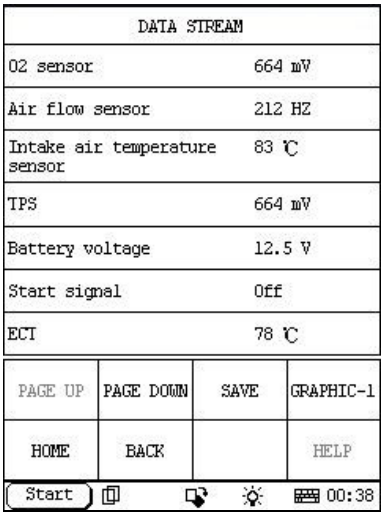


Figure 3-13

Click 'SAVE', the interface as shown in Figure 3-14 will appear:

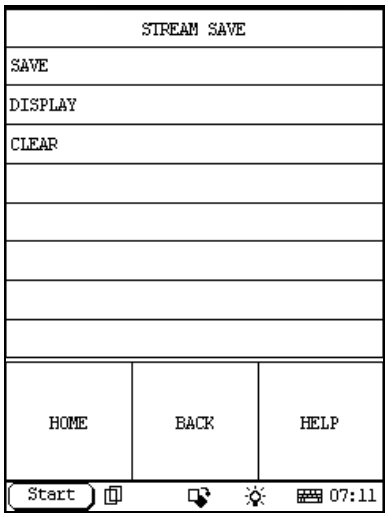


Figure 3-14

Click 'SAVE', and then input a filename after the soft keyboard has been activated (see Figure 3-15):

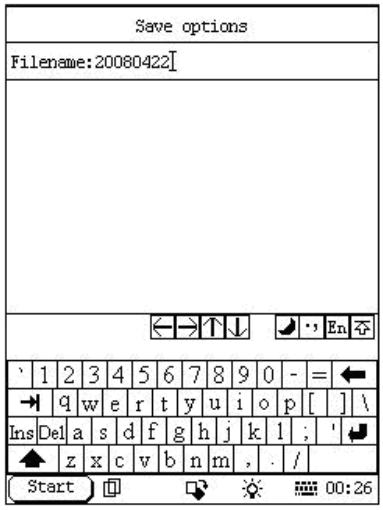


Figure 3-15

After the filename has been input, click the icon of the soft keyboard at the bottom right of the interface to confirm the input, the interface will display as shown in Figure 3-16.

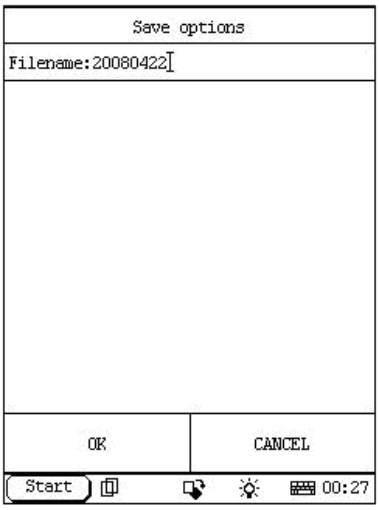


Figure 3-16

Click 'OK' at the bottom left of the interface to begin saving the DataStream.

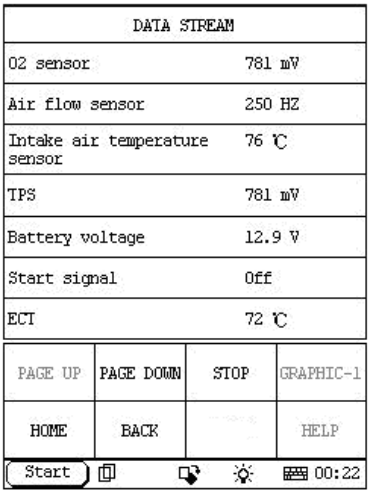


Figure 3-17

Click 'STOP' in Figure 3-17, DataStream of a specific duration (10 minutes at most) has been saved. The below interface will appear:

Figure 3-18

User could judge working status of the vehicle and select None/Good/Bad accordingly (see figure 3-18). Click 'Good' for example, 'Stream save' interface will appear (see figure 3-19).

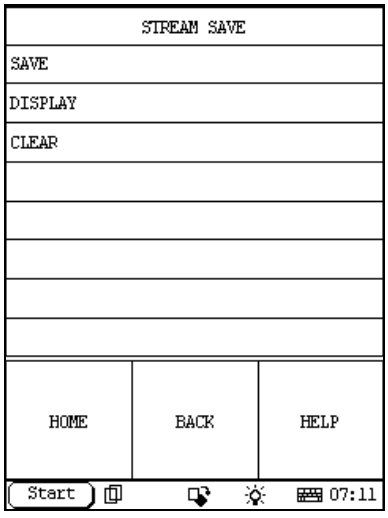


Figure 3-19

Click 'DISPLAY' to view the saved DataStream of the specific duration.

3.2.4.2 Display DataStream

To display/view DataStream records, make sure X-431IV enters Read DataStream function menu.

Only with this function, could the saved data be available and the related file be visited.

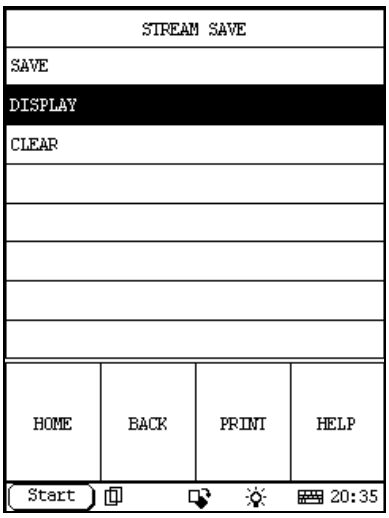


Figure 3-20

In figure 3-20, click [DISPLAY], all the saved files of the DataStream will be listed out. A file indicates the name of the diagnostic program used, the date and the time of the recording, these information enable user find out the needed records.

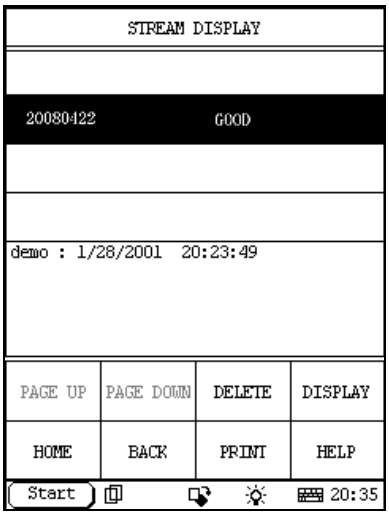


Figure 3-21

In figure 2-60, select a desired file and click [DISPLAY], one frame of the data will be displayed as shown in figure 3-22, click <—or —> to view the previous or next frame of the data. View and consider the data to find out the changes as well as the similarities and differences before/after the fault, thus to facilitate the analysis and removal of the faults.

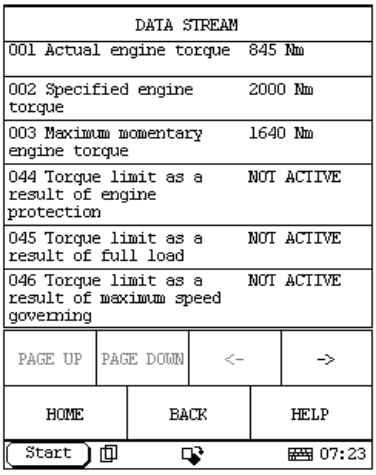


Figure 3-22

3.2.4.3 Clear DataStream

How many data could be recorded is subject to the storage in the CF card. Clear the data if the CF card storage is not enough or there is some unnecessary data record. Enter the interface as shown in figure 3-20 and choose [CLEAR], then click [OK] from the dialog box to delete, and the file is removed from the CF card.

3.2.5 Special function

Click [Special function] in Figure 3-7 to enter function selection interface, and then select the desired one to perform.

4. Update of Diagnostic Software

The X-431IV comes preloaded with the software that was available at the time of the unit's production. This software may be several versions behind what is currently available on the Internet, but you can update the X-431IV through the Internet.

Hardware Requirement:
1. A computer that can access the Internet.
2. A CF card reader/writer and a CF card that need to be updated.

- Insert the CF card into the CF card reader/writer.
- Connect one end of the USB cable to the port of the CF card reader/writer, and the other end to the USB port of the computer.

4.1 User Registration

Log on http://mycar.dbscar.com/pad/. Select [X-431 IV] from the [Products] pull-down menu to enter the X-431 IV homepage.

Figure 4-1

Click "Users" in the interface as shown in Figure 4-1 to enter the login screen.

4.1.1 Register a passport

If you have not registered a passport, please follow the steps described as below:
Click [Register now] to enter the user registration interface as indicated on Figure 4-2.

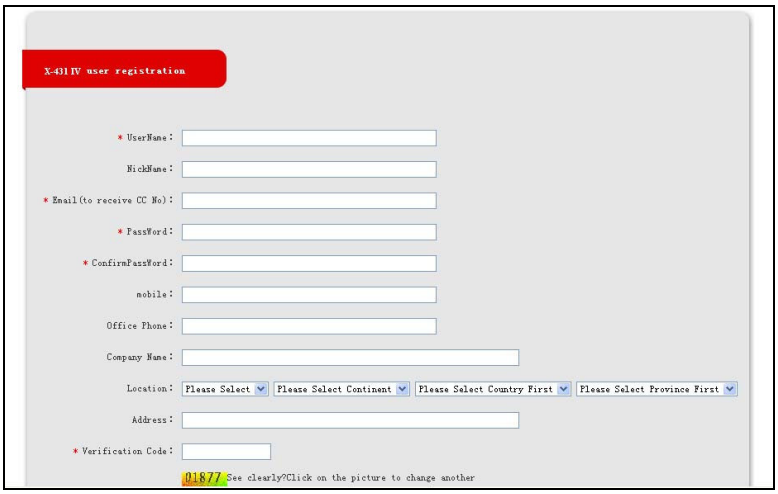


Figure 4-2

Fill in your information (items with * can not be blank and must be entered). After filling, click [Confirm & Agree Next Terms] to register a passport. The system will send a CC number to your email immediately.

If you are a registered member, input your CC number or user name and password, then click [login] to enter product registration.

4.1.2 Fill in Product Information

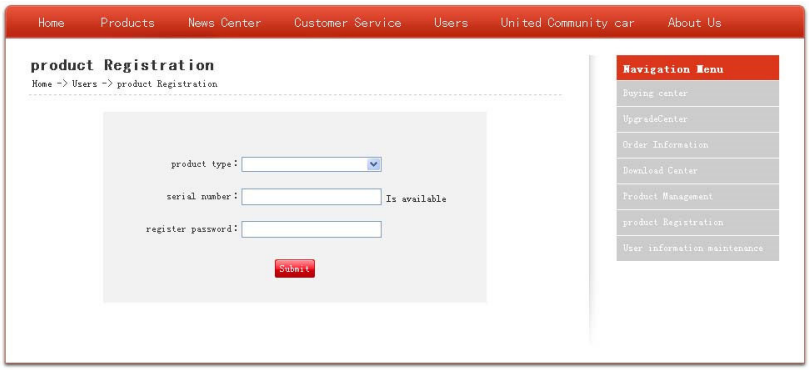


Figure 4-3

Choose the desired product type from the pull-down list. The serial No. is marked on the back of your X-431 IV. The registration password is in an envelope delivered with the product (the number must be kept confidential). Vender code can be found on the last page of the user's manual.

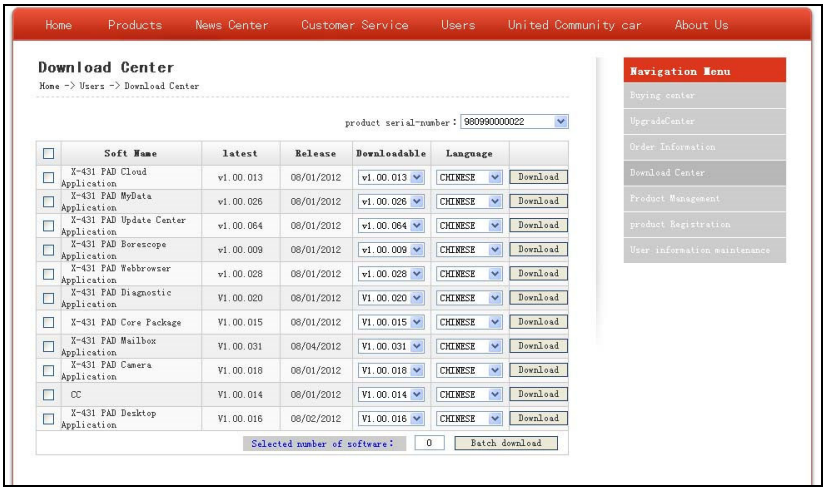
After the information is filled, click "Submit" to register your product.

Note: If the filled serial No. or registration No. is invalid, the screen will display a wrong message. Click "OK" button to return to the previous interface to re-fill the correct numbers.

4.2 Software Download

Note: Only the registered user can download and update the software.

Click [Download center] to enter download center page after logging in successfully.



Notes:

1. *Software update of charge free will be provided by LAUNCH for one year. The free period is from the registration date on the website, not the purchase date. That is, during one year after the registration, users could download the corresponding software for free.*
2. *If there is not the latest version in the download center or the latest version can not meet the needs of the users as they are released by other companies, users could buy the version in the purchase center or in the update center (see "software purchase"). In the purchase center, users can buy the software that doesn't install in the download center. In the update center, users can buy the software that is beyond the free download period. After purchase successfully, the purchased software will be added to the download center list automatically.*

All the software listed in the download center could be downloaded for free. The name of software, the latest version released by LAUNCH currently and the issue date, as well as the latest version which could be downloaded for the product serial No. are provided in the software list.
It's better for users to create a new folder named "X-431 update", to include all the downloaded software according to the following procedures.

Update Tool Download

Users are required to download the update tools before updating. Select language in the drop-down menu, click [Download]. Click [Save] from the pop-up dialog box, and save the update tool in the folder "X-431 update".

Download Display Program

Users are required to download display program before updating diagnostic software if the display program fitted for the latest diagnostic software is updated. Select the language from the drop-down menu, and click [Download]. Click [Save] on the pop-up menu to save the program in the folder "X-431 update".

Download Diagnostic Program

Select language and version (the default version is the latest version) on the drop-down menu. Click [Download], then click [Save] on the pop-up menu to save it in the folder "X-431 update". Click [view] to learn the detailed information of the version. Users could download the other diagnostic program into the folder "X-431 update". Up to now, the software that is for update is downloaded completely.

4.3 Software Update

Connect card reader with TF card to PC and install drive program

Necessary hardware:

1) A computer that can access the internet.
2) A TF card reader of X-431IV and a TF card to be updated.

Connections

a) Insert the TF card into the card reader;
b) Connect one end of the USB cable to the card reader, and the other end to the USB port of the computer.

Install TF Card Reader Drive Program

You don't need to install the drive program if the operating system of your computer is Windows Me/2000/XP, Mac OS 9.x/Mac OS X or Linux 2.4.x, but have to install if the operating system is Windows98.

If card reader installation succeeds, the icon " " will appear in "My computer" automatically.

Interruption may be caused for the following reasons during the update process. Please try again after solving the problem.

1) TF card reader is poor connected to the computer or the drive program of the TF card is installed incorrectly;
2) Space on TF is not enough;
3) Other reasons.

Begin to Update Software

Open the folder "X-431 Update", double click the icon " ", and install the X-431IV update tool according to the Wizard.

After the installation, the update icon for the X-431IV will appear on the desktop.

Double click the update icon for X-431IV on the desktop to actuate the update tool. This program will check the update file downloaded by the user automatically, including the files of diagnostic program and display program.

Select the update program version on the right, and click [UPDATE]. When update completed, an indication box will pop up. If the update program version doesn't exist on the right, clicking the icon " " to open the downloaded update program.

You can click the corresponding icon " " to the G disc to view the files stored in the TF card and delete

some old software versions if necessary for more available space in TF card.

Click [EXIT] to exit.

4.4 Purchase Software

If users can't find the software they needed in download center, they should buy the software in the purchase center or updated in the update center.

Click [Buying center], then you can tick box before the serial number to choose the software. To uncheck it, just click it again.

Click [Order] to add the selected software to your shopping cart.

Click [Pay] to buy the software. The bought software will be automatically added to the user's download center. Click [Clear] to empty the shopping cart. Click [Purchase other] to buy other software.
The operation for update center is the same as for the purchase center. But you can only find software that beyond updated free period in the update center, while all the available software are listed in the purchase center.

5. PDA function of X-431IV

The Start menu, which includes PDA functions of X-431IV is shown in the below figure. Select with stylus to actuate these functions.

Figure 5-1

List of PDA functions (Figure 5-1)

PIM (Personal Information Management)	Memo	To record all kinds of important information and ideas, and make corresponding classification.
	Address	To store the detailed information of relative, friends, colleagues and business partners, which can be easily edited, retrieved and searched.
	To Do	It is convenient for user to record the business to do or being done, to delete or add task records, to arrange the priority of tasks, and to browse the classified tasks.
	Schedule	To arrange the appointments, journeys and meetings in a whole day; to check time schedule on business daily, weekly, monthly and/or annually; and to describe the place, time and other details for each schedule record.
Tools	Calculator	Both simple and scientific calculators are available.
	World Time	The time of many big cities in the world are offered. It is a helpful assistant for your travel.
	Mini Dictionary	An English-Chinese dictionary embodies a large number of words, which cover all fields to overcome your inconvenience in language.
	Picture View	To enjoy all kinds of pictures which can be zoomed in/out.
	Run	To start executable applications which are based on the operating system of the unit.
Game	FIR	It is a kind of chess.
	Reversi	To play for a while in your leisure time.

Control Panel	Application	To link the application with the 'Start' menu, or delete it from the 'Start' menu.
	Power Management	To preset the use of power to save on electricity as possible.
	Clock Set	To set the system time.
	Contrast	To adjust the contrast of display.
	Language Set	To select language to be used.
Vehicle maintenance	Vehicle diagnosis	Professional function of vehicle diagnosis.
	Sensor test and simulation	To test the sensor on vehicle and simulate the output signal from the sensor.

5.1 System Information

5.1.1 User Information

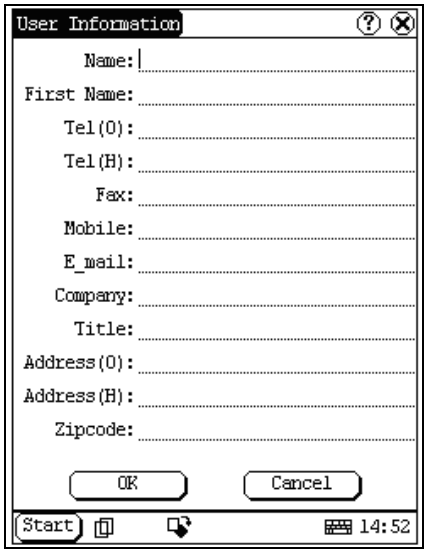


Figure 5-2

User information was input by user. Registration of your information will better guarantee your rights and interests.

1) Click [Start] Button;
2) Select [System Information] in the pop-up menu.
3) Select [User Register] from the pop-up list of [System Information] to open User Information interface.
4) Activate soft keyboard for inputting the information
5) Click [OK] to save and quit current interface.

5.1.2 About

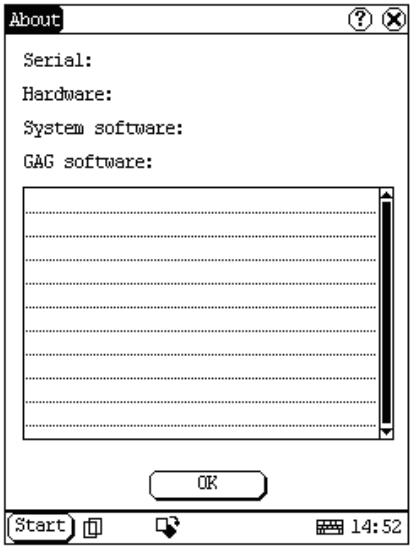


Figure 5-3

Click [About] in the list of [System Information] to display the hardware and software information of the related system. Click [OK] to quit the about interface.

5.2 Tools and Games

5.2.1 Tools

Figure 5-4

1) Click [Start] button.

2) Select 'Tools' in the pop-up menu.
3) Select the function needed in the pop-up submenu. (Refer to Figure 4-04)

5.2.1.1 Calculator

This calculator can perform not only common calculations as a simple calculator, such as addition and subtraction, but also the function operations as a scientific calculator, such as logarithm and factorial. (Refer to Figure 5-6).

1) In the pop-up menu of 'Tools', select 'Calculator' to open the Calculator interface.
2) Click the square overlap icon on upper left of the screen to switch between scientific calculator and simple calculator.
3) Click 'Unit Conversion' button to switch between unit conversion calculator and simple calculator.

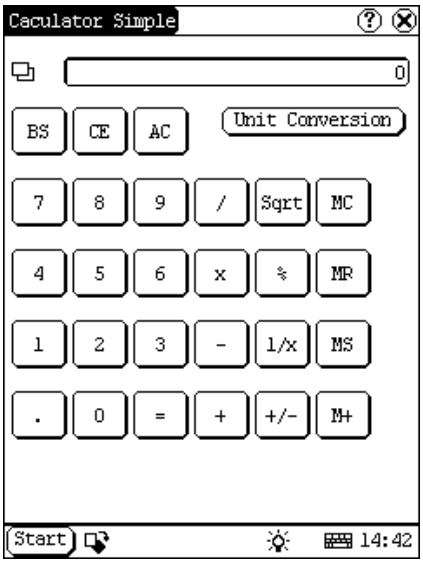


Figure 5-5

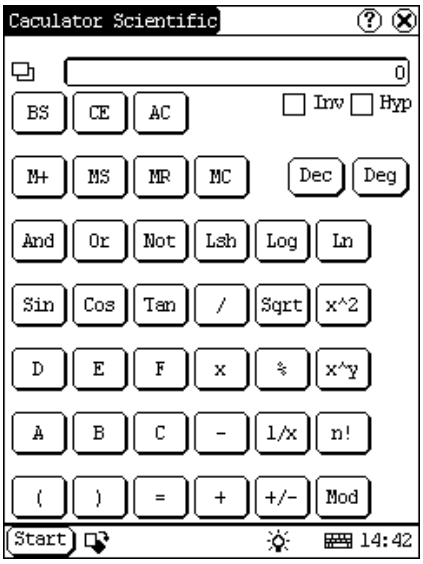


Figure 5-6

Common Calculator (Refer to Figure 5-5):

1) Click numeral keys on the screen to input.
2) Or activate Soft Keyboard, and click numeral key on Soft Keyboard to input.
3) The operation is the same as that for normal calculator.

Unit Conversion Calculator (Refer to Figure 5-7):

1) Click 'Unit type' button at the top right corner to select unit type.
2) Input the number to be converted in the blank next to the unit name, and then you will see the conversion result.
3) If you want to return to simple calculator, please click 'X' button at the top right corner to close the current interface.

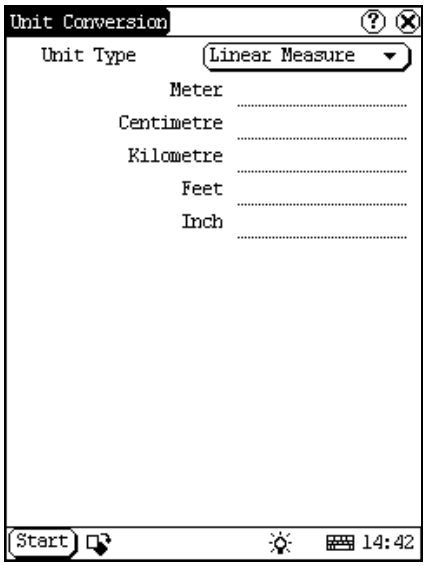


Figure 5-7

5.2.1.2 World Time

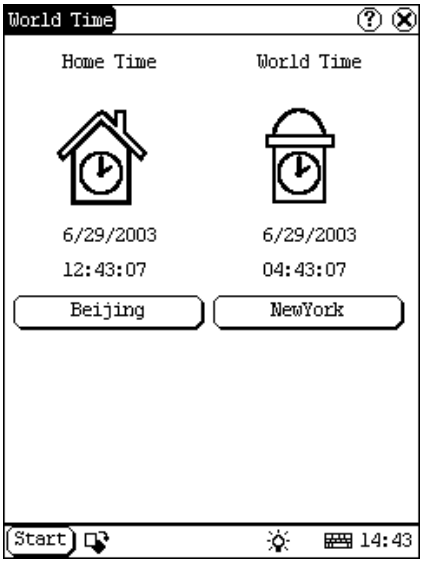


Figure 5-8

1) In the pop-up menu of 'Tools', select 'World time' to open the world time interface.
2) Click the button under the 'Home Time' icon to select region.
3) Click the button under the 'World Time' icon to select region.
4) Then you can see the time directly. (See Figure 5-8).

5.2.1.3 Dictionary

1) In the pop-up menu of 'Tools', select 'Minidict' to open the Dictionary interface. (See Figure 5-9)
2) Activate Soft Keyboard, and input words.
3) Select the word from the list on the left.
4) Click the word, and then you can find the translation in the right list.

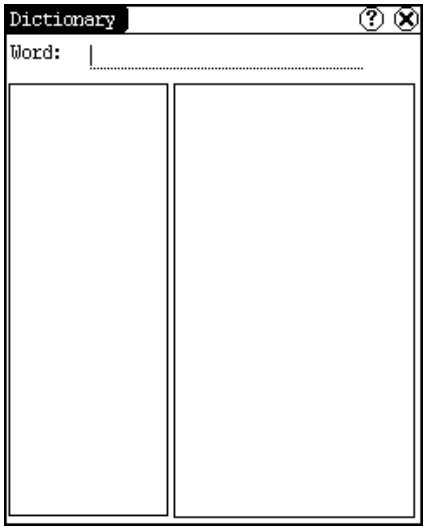


Figure 5-9

5.2.1.4 Picture View

1) Click [Start] button.
2) Select 'Tools' in the pop-up menu.
3) In the pop-up 'Tools' list, select 'Picview' to open the Picture interface.
4) In the Picture interface, click icon in the toolbar on the top. (See Figure 5-10)
5) Select directory from the left list interface.
6) Select file from the right list interface.
7) Click [Parent Dir] button, and you can see the directory of current directory's parent.
8) You can see the directory of the picture at the right side of 'Path'.
9) You can see the file name of the picture at the right side of 'File'.
10) Click [OK] button to open the picture.

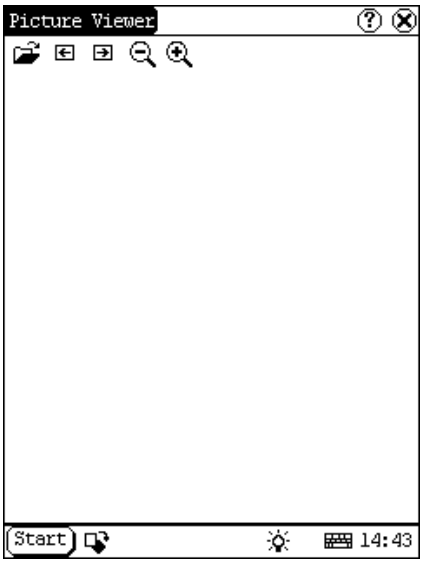


Figure 5-10

Browse the pictures in current directory

1) In the Picture interface, click icon on the top to browse the previous picture.
2) In the Picture interface, click icon on the top to browse the next picture.

Note:
This operation is needed only when more than one picture has been stored.

Zoom in and zoom out:

In the Picture interface, click or icon on the top, then you can zoom in or zoom out the current picture at will.

5.2.2 Game

Figure 5-11

1) Click [Start] button.
2) Select 'Game' in the pop-up menu.
3) Select the function in the pop-up submenu. (See Figure 5-11)

5.2.2.1 FIR

1) In the pop-up submenu of 'Game', select 'FIR' to open the Chess Board.
2) Click black or white chessman to begin the game. The one who select the black chessman will start first. (See Figure 5-12)

Rules for the game:

You must try to make your five chessmen line up and prevent your opponent from achieving this goal in the process. The one whose 5 chessmen are lined up first is winner. You can choose the black or white chessman at the bottom of the Chess Board before starting playing.

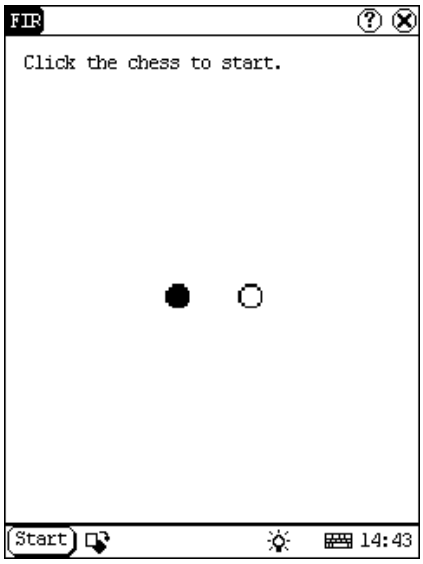


Figure 5-12

5.2.2.2 Reversi

1) In the pop-up menu of 'Game', select 'Reversi' to open the Chess Board. (See Figure 5-13)

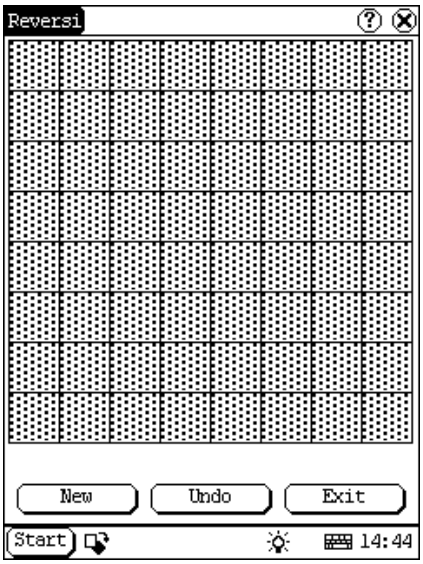


Figure 5-13

2) Click [New Game] button to start.
3) Click [Undo] button for pull back.
4) Click [Close] button to close the Chess Board.

Rules:

The one who chooses white chessman can play first. All black chessmen between two white chessmen will turn to white ones and all white chessmen between two black chessmen will turn to black ones. So the player should be able to reverse opponent's chessmen in each step. When the chessboard is full of chessmen, the number of the chessmen for each color should be counted. The one who conserve more chessmen on the chessboard is winner.

5.3 PIM

1) Click [Start] button.
2) Select 'PIM ' in the pop-up menu.
3) Select the function needed in the pop-up list. See Figure 5-14.

Figure 5-14

5.3.1 Memo

The basic functions of Memo include: add new memo, view memo, delete memo, browse by types, etc.

1) In the pop-up 'PIM' list, select 'Memo' to open the Memo interface. (See Figure 5-15)
2) After you click the [▼] button on top right corner, the type list will pop up. Then you can select the type of the memo.
3) You can also select the Edit Group in the type list to open the Edit Group interface.
4) The memo list of corresponding type will

be displayed in the list box on the midst of the Memo interface.

5) Click one memo in the memo list to open the Memo Edit interface.
6) Click [New] button to open the New Memo interface.

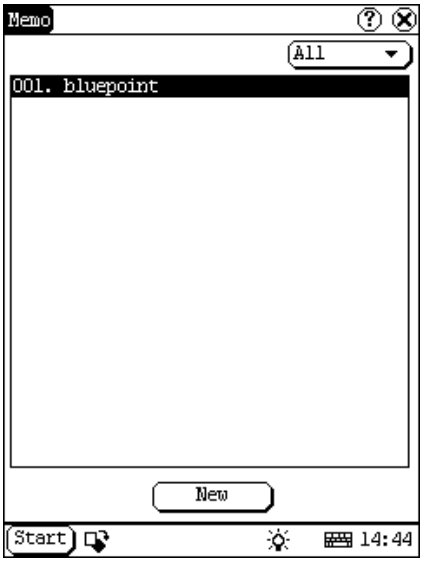


Figure 5-15

2) Then you can edit the contents of the memo in the opened Memo Edit interface. See Figure 5-16.
3) After editing, click [OK] button to save the edited contents and close the Memo Edit interface.

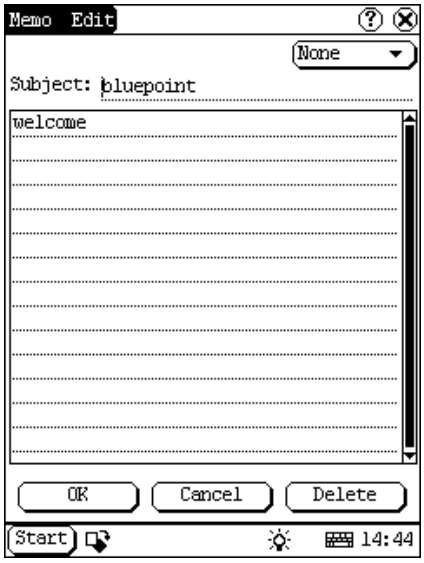


Figure 5-16

5.3.1.1 Add New Memo

1) In the Memo interface, click [New] button to open the New Memo interface.
2) Activate Soft Keyboard, and fill the subject and contents.
3) Click the button on top right corner, then select the type in the pop-up list
4) Click [OK] button to save and close the New Memo interface.
5) Then you can see the new memo in the list box of the Memo interface.

5.3.1.2 View Memo

1) In the list box of the Memo interface, click the memo that you want to view.
2) Then you can view the contents of the memo in the opened Memo Edit interface.
3) Click [OK] button to close the Memo Edit interface.

5.3.1.3 Edit Memo

1) In the list box of the Memo interface, click the memo that you want to edit.

5.3.1.4 Delete Memo

1) In the list box of the Memo interface, click the memo that you want to delete.
2) Then you can delete the memo in the opened Memo Edit interface.
3) Click [Delete] button to delete the memo and close the Memo Edit interface.

5.3.1.5 Edit Type

1) Click the [▼] button on the top right of the interface ① so that the type list pops up.
2) In the type list, select the Edit Group to open the Edit Group interface.
3) In the Edit Group interface, activate Soft Keyboard.
4) In the text box at the bottom of the interface, input the name of the type.
5) Click [Add] button to add a new type and it will be displayed in the list box of the Edit Group interface. (See Figure 5-17)
6) Select one type in the list box, and then click [Delete] button to delete it.
7) Click [Close] button to close the Edit

Group interface.

The interface ① : It represents the Memo Interface, the New Memo interface and the Memo Edit interface.

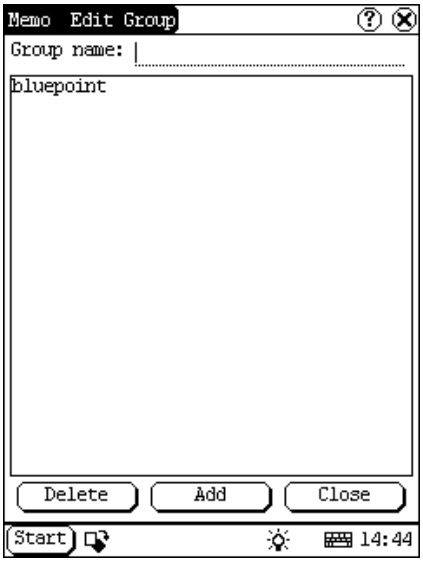


Figure 5-17

5.3.1.6 Browse By Types

1) Click the [▼] button on the top right of the Memo interface so that the type list pops up.
2) Select the type in the list.
3) Then you can see the memo belonging to the type in the list box.

Note: Only the memo belonging to the type can be displayed here. If you want to browse all memos, please select 'All' in the steps 1 and 2.

5.3.2 Address

The basic functions of Address Book include: add new address, view address, delete address, to search address, etc.

1) In the pop-up 'PIM' list, select 'Address' to open the Address Book interface.
2) It lists the name of persons whose communication information has been stored.
3) Click [New] button to open the Address New interface. (See Figure 5-18)
4) Click [Find] button to pop up the Find People interface.

The operation guide for each function is described below:

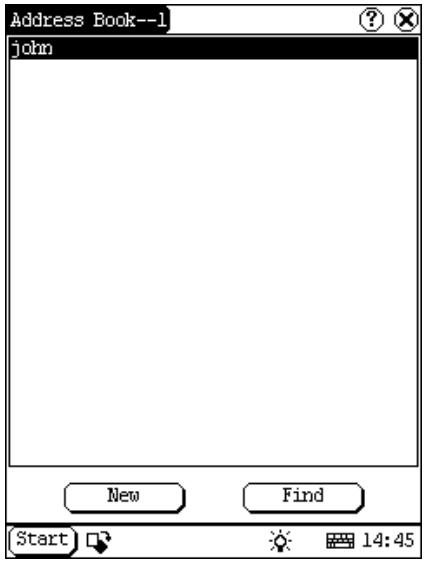


Figure 5-18

5.3.2.1 Add New Address

1) In the Address Book interface, click [New] button to open the Address New interface. (See Figure 5-19)
2) Activate Soft Keyboard, and fill the detailed information on relatives and friends.
3) Click [OK] button to save and close the Address New interface.
4) Then the added name will be displayed in the list box of the Address Book interface.

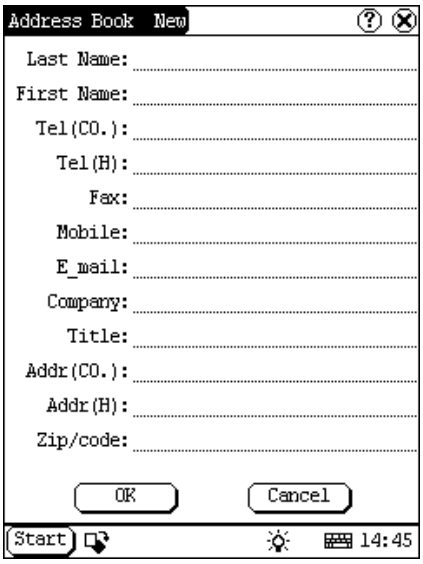


Figure 5-19

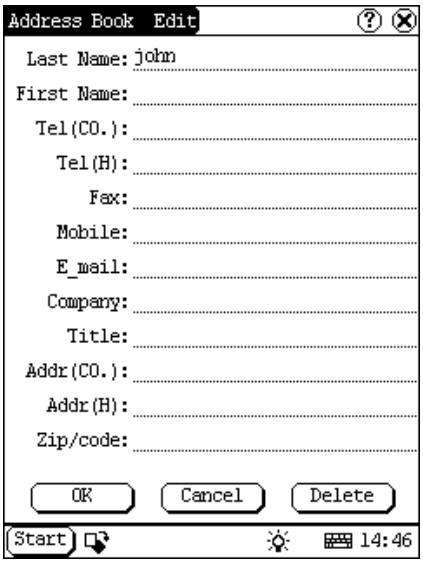


Figure 5-20

5.3.2.2 View Address

1) In the list box of the Address Book interface, click the name that you want to view.
2) Then the detailed information about the person will be shown in the opened Address Edit interface.
3) Click [OK] button to close the Address Edit interface.

5.3.2.3 Edit Address

1) In the list box of the Address Book interface, click the name that you want to edit.
2) Then the information about the person can be edited in the opened Address Edit interface. See Figure 5-20.
3) After editing, click [OK] button to save the edited contents and close the Address Edit interface.

5.3.2.4 Delete Address

1) In the list box of the Address Book interface, click the name that you want to delete.
2) Then the information about the person will be shown in the opened Address Edit interface.
3) Click [Delete] button to delete the person's information and close the Address Edit interface.

5.3.2.5 Search Address

1) In the Address Book interface, click [Find] button to pop-up the Find People interface. See Figure 5-21.
2) Activate Soft Keyboard, and input the name you want to search.
3) Click [OK] button, and then you will see that the name you search is highlighted in the list box.

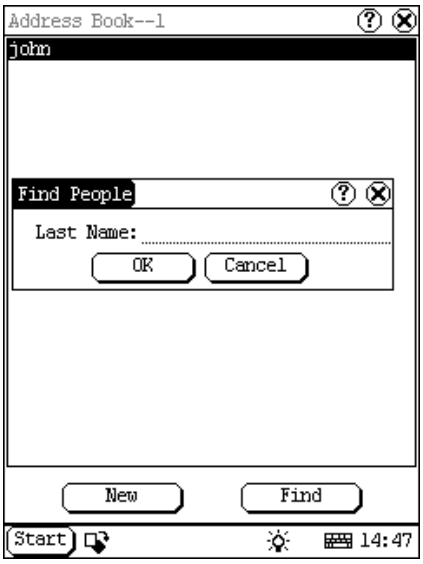


Figure 5-21

5.3.3 To Do

The basic functions of To Do include: add new To Do, view To Do, delete To Do and set To Do, etc.

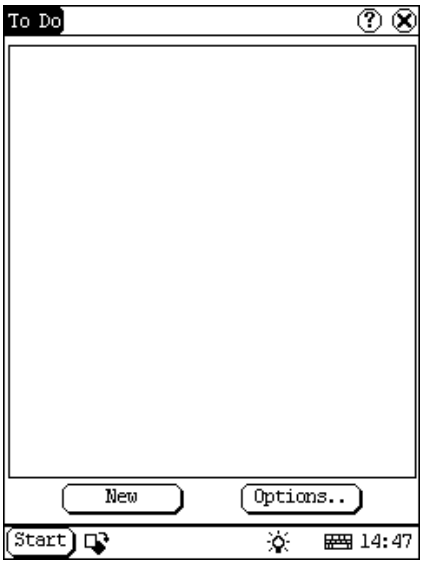


Figure 5-22

1) In the pop-up 'PIM' list, select 'To Do' item to open the To Do interface.
2) The To Do list of corresponding items will be displayed in the list box on the midst of the Memo interface.
3) Click [Options] button to open the To Do Display interface. (See Figure 5-22)
4) Click [New] button to open the To Do New interface.

5.3.3.1 Add New To Do

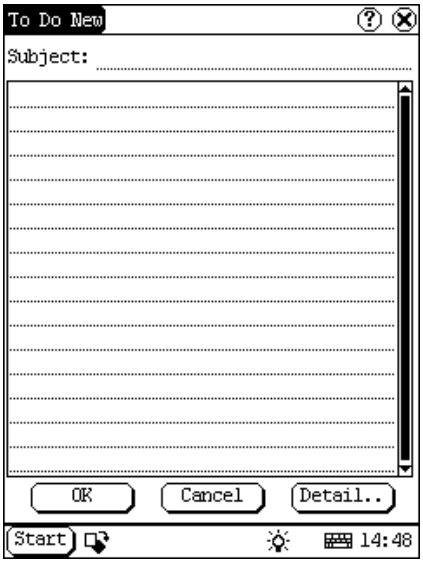


Figure 5-23

1) In the To Do interface, click [New] button to open the To Do New interface. See Figure 5-23.
2) Activate Soft Keyboard, and fill in the subject and contents.
3) Click [Detail] button to open the To Do Detail interface. See Figure 5-24.
4) In the To Do Detail interface, click the button to the right of 'Group' to pop-up the type list.
5) Click the button to the right of 'Expired', and select the data in the pop-up list.
6) Click the number to the right of 'Priority' to set the priority of the To Do.
7) If the To Do has been finished, please click the box to the right of 'Finished'. When the function is selected, 'X' will be marked in the box.
8) Click [OK] button to save and close the To Do Detail interface.
9) In the To Do Detail interface, click [OK] button to save and close the To Do New interface.

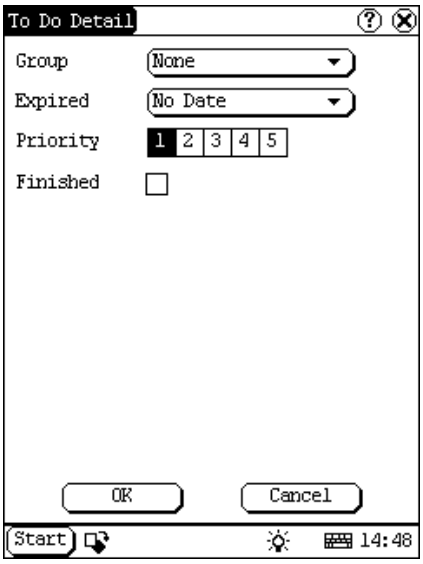


Figure 5-24

5.3.3.2 View To Do

1) In the list box of the To Do interface, click the to do that you want to view.
2) Then the contents of the To Do will be shown in the opened To Do Edit interface.
3) Click [OK] button to close the To Do Edit interface.

5.3.3.3 Edit To Do

1) In the list box of the To Do interface, click the memo that you want to edit.
2) Then the contents of the memo will be shown in the opened To Do Edit interface.
3) Click [Detail] button to open the To Do Detail interface, please refer to step 4~8 in the section "Add New To Do".
4) After editing, click [OK] button to save the edited contents and close the To Do Edit interface.

5.3.3.4 Delete To Do

1) In the list box of the To Do interface, click the to do that you want to delete.
2) Then the contents will be shown in the opened To Do Edit interface.
3) Click [Delete] button to delete the To Do and close the To Do Edit interface.

5.3.3.5 Edit Type

1) Click the [▼] button to the right of 'Group' in the interface ① so that the type list pops up.
2) In the type list, select 'Edit Group' to open the Edit Group interface. See Figure 5-25.
3) In the Edit Group interface, activate Soft Keyboard.
4) In the text box at the bottom of the interface, input the name of the type.
5) Click [New] button to add a new type and it will be displayed in the list box of the Edit Group interface.
6) Select one type in the list box, and then click [Delete] button to delete it.
7) Click [Close] button to close the Edit Group interface.

The interface ① : It represents the To Do Detail Interface (Refer to step 1-3 in the section "Add New To Do" and "Edit To Do"), and the To Do Display interface (Refer to step 1 in the section "The Set of Display ").

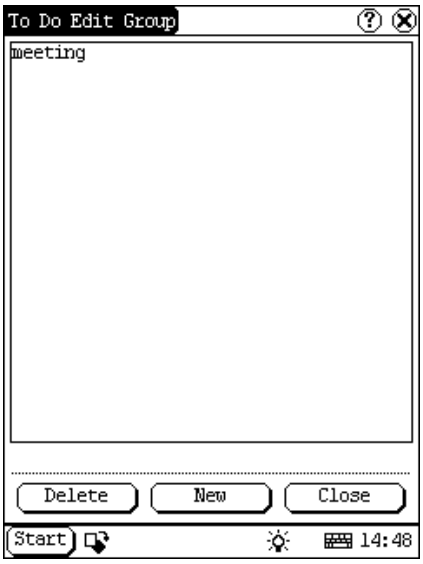


Figure 5-25

5.3.3.6 The Set of display

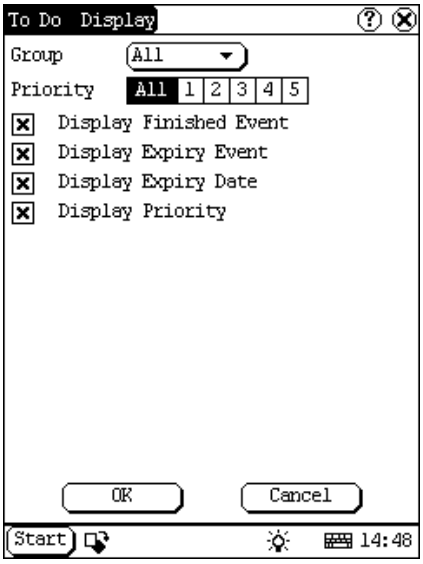


Figure 5-26

1) In the To Do interface, click [Options] button to open the To Do Display interface.
2) In the To Do Display interface, click the button to the right of 'Group' to pop-up type list, and select the type in the pop-up list.
3) Click the button to the right of 'Expired', and select the data in the pop-up list.
4) Click the number or 'All' to the right of 'Priority' to set the priority of the displayed To Do.
5) Click the box to the right of each function. When 'X' is displayed in the box, the function is selected. (See Figure 5-26)
6) Click [OK] button to close the To Do Display interface.
7) Then you can see the corresponding To Do in the list box of the To Do interface.

5.3.4 Schedule

The basic functions of Schedule include: add new schedule, view schedule, delete schedule, etc.

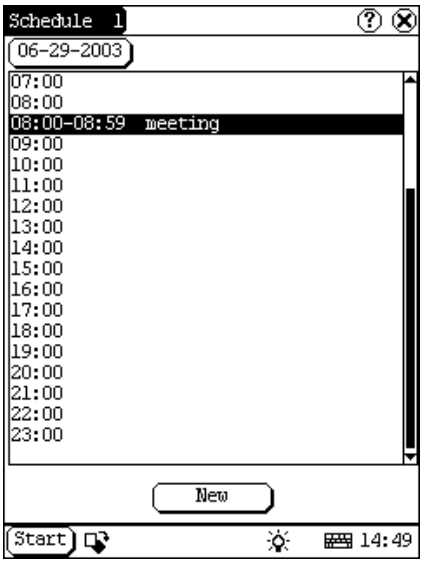


Figure 5-27

1) In the pop-up list of 'PIM', select 'Schedule' to open the Schedule interface.
2) Click the Date button on the upper left of the interface to open the Select Date interface.
3) In the list box in the middle of the interface, all schedules on that day corresponding to the Date button will be displayed. (See Figure 5-27)
4) Click [New] button, and then the cycle list pops up. You may select 'Common', 'Daily', 'Weekly', 'Monthly' and 'Annual'.
5) In the cycle list, select one item to open the Schedule New interface.

5.3.4.1 Add New Schedule

Set the date of the schedule:

1) In the Schedule interface, click the Date button on the upper left to open the Select Date interface.
2) In the Select Date interface, click [◀] icon to the left of the month or year to select the previous month or year.
3) Click the [▶] icon to the right of the month or year to select the next month or year. (See Figure 5-28)
4) Click to select the date in the current month. When it is highlighted, it is selected.
5) Or click [Today] button to display the

current year, month and date directly.

6) Click [OK] button to save the date setting and close the Select Date interface.
7) You may see the date you set on the button on the top right of the Schedule interface.

Figure 5-28

Set the cycle of the schedule:

1) In the Schedule interface, click [New] button so that the Cycle list pops up. See Figure 5-29.
2) In the Cycle list, select 'Common' if it is done on the selected date.
3) Select 'Daily' if it is done every day.
4) Select 'Weekly' if it is done on a fixed day every week.
5) Select 'Monthly' if it is done on a fixed day every month.
6) Select 'Annual' if it is done on a fixed day every year.
7) After selecting, open the New Schedule interface.

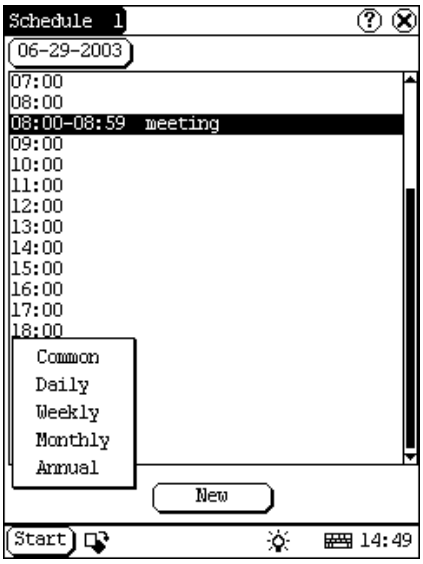


Figure 5-29

Set the content of the schedule:

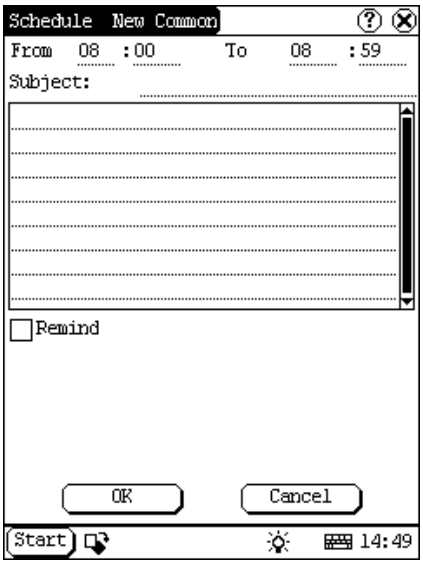


Figure 5-30

1) In the Schedule New interface, activate Soft Keyboard, and fill the subject and contents.
2) In the textbox on the top of the interface, fill the time of the schedule.
3) If the selected cycle is 'Daily', 'Weekly', 'Monthly' or 'Annual', you can input the repeat time in the textbox on the bottom of the interface. See Figure 5-30.

4) "Remind" function can be selected and the reminding time can be set in the interface. The "Remind" function will not be available when the machine is turned off.
5) Click [OK] button to save and close the Schedule New interface

5.3.4.2 View Schedule

1) In the Schedule interface, select the date that has been scheduled. (Refer to the section "Add New Schedule → Set the date of the schedule")
2) In the list box of the Schedule interface, click Scrolling Bar to turn to next page, and click the schedule you want to view.
3) Then the contents of the schedule will be shown in the opened Schedule View interface.
4) Click [OK] button to close the Schedule View interface.

5.3.4.3 Edit Schedule

1) In the Schedule interface, select the date that has been scheduled. (Refer to the section "Add New Schedule → Set the date of the schedule")
2) In the list box of the Schedule interface, click Scrolling Bar to turn to next page, and click the schedule you want to edit.
3) Then the contents of the schedule will be shown in the opened Schedule View interface.
4) If the edited affair is 'Daily', 'Weekly', 'Monthly' or 'Annual', you can edit the repeat time in the textbox on the bottom of the interface.
5) After editing, click [OK] button to save the edited contents and close the Schedule View interface.

5.3.4.4 Delete Schedule

1) In the Schedule interface, select the date that has been scheduled. (Refer to the section "Add New Schedule → Set the date of the schedule")
2) In the list box of the Schedule interface, click Scrolling Bar to turn to next page, and click the schedule you want to edit.
3) Then the schedule will be shown in the opened Schedule View interface. See Figure 5-31.
4) Click [Delete] button to delete it and close the Schedule View interface.

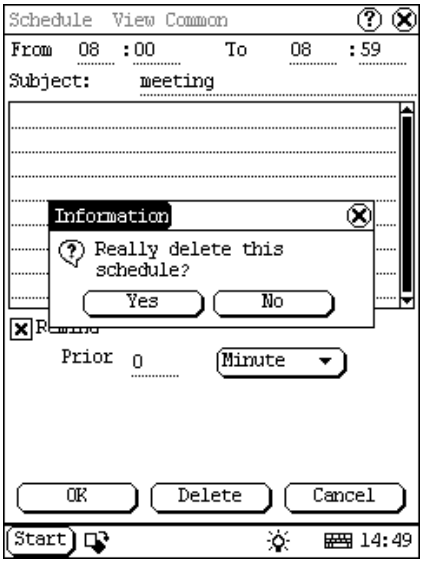


Figure 5-31

5.4 System

5.4.1 Control Panel

The control panel includes all interrelated software and hardware configurations. It makes the software more custom-built for you by configuring.

1) Click [Start] button.
2) Select 'Control Panel' in the pop-up menu.
3) Open the Control Panel interface. (See Figure 5-32)

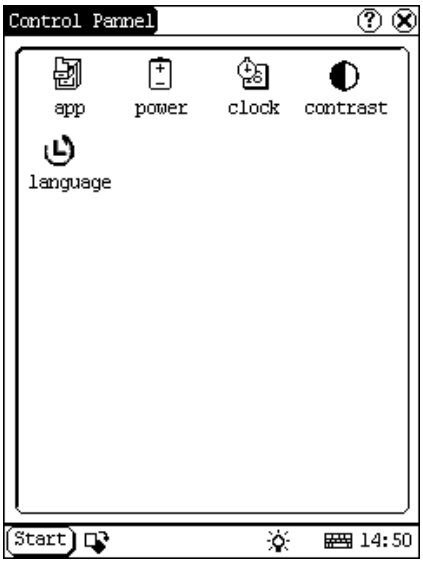


Figure 5-32

5.4.1.1 Application

It displays the application information contained in the 'Start' menu, including the group name, the submenu, etc.

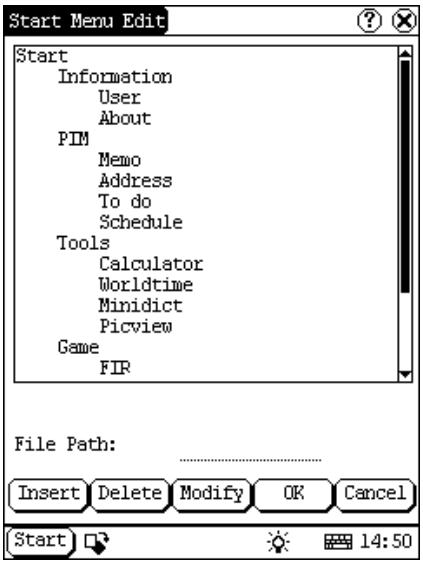


Figure 5-33

1) In the Control Panel interface, click 'App' icon to open the Application Manager interface.
2) Then you can see the corresponding information in the list box of the interface. (See Figure 5-33)
3) Insert a new group:
   Click [Insert] button and input the item name. Then choose "Start" as its parent and click [OK] button.

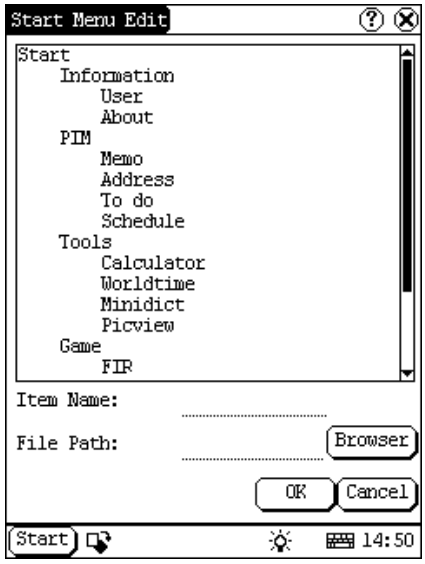


Figure 5-34

4) Insert a new submenu:
   Click [Insert] button and input the item name and the file path. Then choose a group as its parent and click [OK] button.
   The path can be inputted directly or found out in a dialogue box after clicking [Browser] button. See Figure 5-34 and Figure 5-35. Click [OK] button after selecting an item in the list. Then the selected file will be automatically copied to the edit box.
   The submenu should be linked to a present group instead of the "Start" item or another submenu.
5) Delete a group or a submenu:
   Select a group or a submenu and then click [Delete] button. When a group is deleted, all of its submenus will be deleted.
6) Modify a group or a submenu:
   Click [Modify] button and then select the group or submenu from the list. Now you can modify the item name, file path and so on followed by clicking [OK] button.

7) Save the information:
After editing the application, click [OK] button. The modified information will be saved in the corresponding file. If you want to quit the modification, click [Cancel] button.

Note:
Quit all other applications before saving the modification.

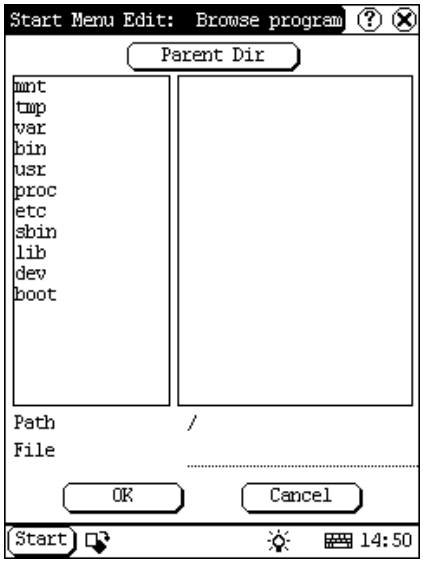


Figure 5-35

5.4.1.2 Power Management

In the Power Manager interface, you can see the condition of memory, and set the standby time. (See Figure 5-36)

1) In the Control Panel interface, click 'Power' icon to open the Power Manager interface.
2) Click the button to the right of 'Standby time', and select the time or 'None' in the pop-up list.
3) Click [OK] button to save the setting and close the Power Manager interface.

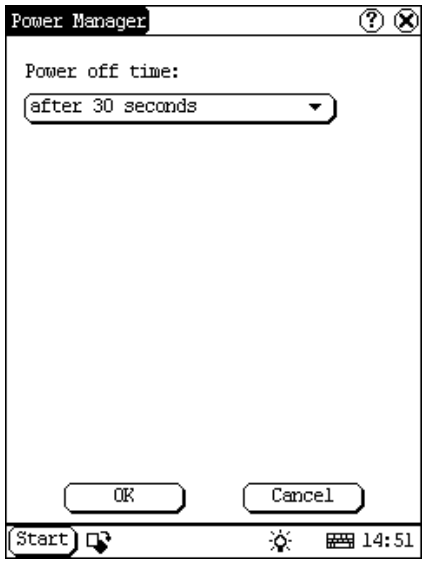


Figure 5-36

5.4.1.3 Clock

User can set the time and the time zone of the system.

Figure 5-37

Set Time:

1) In the Control Panel interface, click 'Clock' icon to open the Date/Time interface as shown in Figure 5-37.
2) In the Date/Time interface, click [Set Time] button to open the Set Time interface as shown in Figure 5-38.

3) Click the characters to the right of 'Day' to set AM and PM, the selected one will be highlighted.
4) Activate Soft Keyboard, and then you can set 'Hours', 'Minutes' and 'Seconds' directly.
5) Click [OK] button to save and close the Set Time interface.

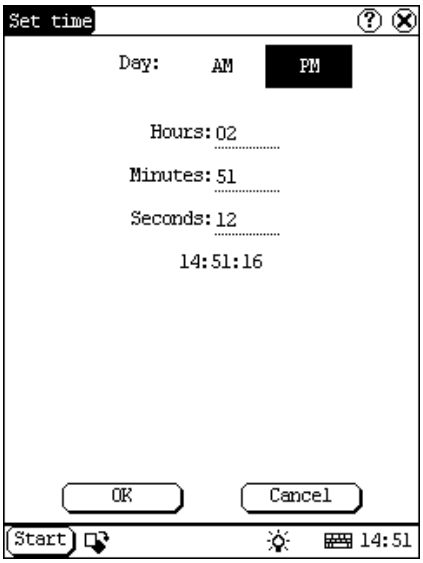


Figure 5-38

Set Date:
1) In the Date/Time interface, you can set date directly.
2) Click [◀] icon to the left of the month or year to select the previous month or year.
3) Click the [▶] icon to the right of the month or year to select the next month or year. (See Figure 5-37)
4) Click the date in the current month. It will be highlighted when it is selected.
5) Click [Set Time] button to save the setting.
6) Click [Quit] button to exit.

Set Time Zone
1) In the Date/Time interface, click [Set Time zone] button to open the Set Zone interface as shown in Figure 5-39.
2) Click Scrolling Bar to turn to next page of the list, and select your zone. It will be highlighted when it is selected.
3) Click [OK] button to save and close the Set Zone interface.

Figure 5-39

After finishing all settings, click [OK] button in the Date/Time interface to exit and close the interface.

5.4.1.4 Contrast

It is for adjusting the contrast of the screen to make the interface clearer.

1) In the Control Panel interface, click 'Contrast' icon to open the Contrast interface. See Figure 5-40.
2) In the Contrast interface, click the position you want, and then you can set it.

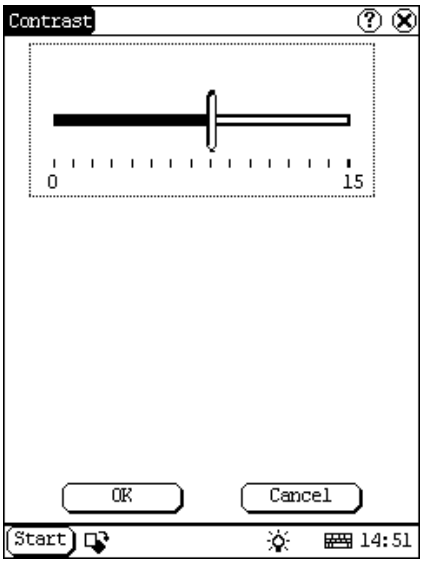


Figure 5-40

5.4.1.5 Language

You can make selection among several languages for convenient operation of the system.

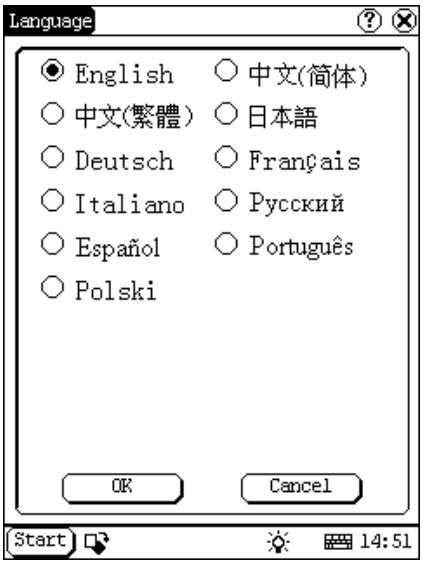


Figure 5-41

1) In the Control Panel interface, click 'Language' icon to open the Language interface. See Figure 5-41.
2) Select the language you want to use.
3) Click [OK] button to confirm the selection and close the language interface and the Control Panel interface.

Note: Before selecting language, be sure to quit all applications.

5.4.2 System Information

5.4.2.1 Calibrate Touch screen

It is for getting the desired accuracy of the touch screen. Calibrating of touch screen can be divided into two steps. The first step is to detect noise automatically. If you click the touch screen at this step, the noise value would be affected. After detecting the noise, the system will come to the calibration step. Then the cross cursor will be displayed.

1) After switching on the machine, follow the tips to press the hot key. The calibration interface will be opened.
2) Click the cross cursor on the screen accurately, and wait until it changes. Then one step of calibration is finished.
3) After calibration is finished for all corners, the system will automatically return to the start-up main interface.

Note:

- ***Do not click the touch screen before the cross cursor appears.***
- ***In the calibration step, if you fail to click the cross cursor accurately, the cross cursor will be displayed on the screen again and again until the calibration is finished completely.***

5.4.2.2 User Register

The user's right can be well protected after registration.

1) Click [Start] button.
2) Select 'Information' in the pop-up menu.
3) Select 'User' in the pop-up list to open the User Information interface. (See Figure 5-42)
4) In the User Information interface, activate Soft Keyboard, and input the user information. (See Figure 5-43)
5) Click [OK] button to save the information and close the User Information interface.

Figure 5-42

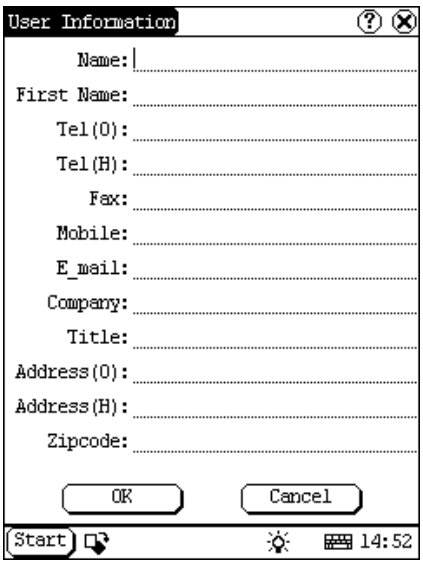


Figure 5-43

5.4.2.3 About

In 'Information' list, click 'About' to display the information on system software and hardware, then click [OK] button to close it. (See Figure 5-44)

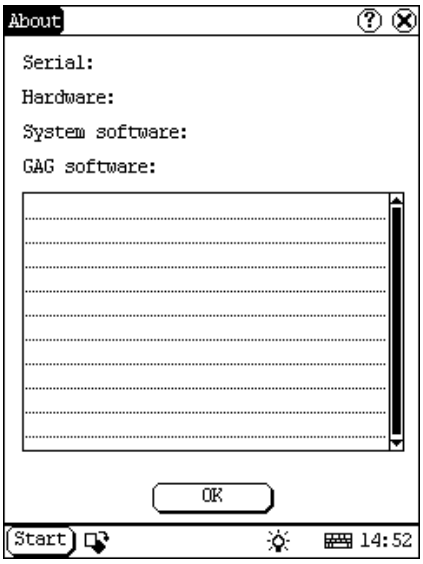


Figure 5-44

5.4.3 Turn Off

Click "Turn Off" in the Start menu when you attempt to turn off the machine.

6. FAQ

X-431IV is a hi-tech product. With the development of modern automotive industry, more and more new technology will be adopted and there may be questions during operation. Read the user's manual to get the answer whenever you have any question, or contact our Customer Service Center for help.

Here we list some frequently asked questions and answers relating to X-431IV.

6.1 About Update via Internet

Question: "Removable Disk" icon does not appear in the catalogue of "My computer" after the CF card reader/writer is connected to the USB port of computer. Why?

Answer:
Possible cause: there may not be driver for CF card reader/writer in the computer. The default driver is with the operating systems like Windows Me/2000/XP, Mac OS 9.x/Mac OS X and Linux 2.4.X. However, there is no such default driver with Windows 98.

Solution: Check if there is the driver for CF card reader/writer in the computer. If the computer uses Windows 98 operating system, it is necessary to install the driver into computer by using the CD-ROM provided with CF card reader/writer.

When the CF card reader/writer driver is installed successfully, a "Removable disk" icon will appear in the catalogue of "My computer". Usually it is listed after original disk drive. For example, if there were drives A, B, C and D originally, the removable disk will be "E". If there were drives A, B, C, D and E originally, the removable disk will be "F". The rest may be deduced by analogy.

Question: Some downloaded diagnostic program is not listed in the update tool, what is the reason?

Answer: There are two possible causes:
1. The downloaded diagnostic program is not put in the same folder as other diagnostic programs. Please move it to the same folder as others.
2. The diagnostic program is not fully downloaded. Please download the program again.

Question: When the updated software is used in vehicle diagnosis, some diagnostic program cannot be downloaded successfully from the CF card. Why?

Answer: possible causes and solutions:
1. The Display Program may have not been updated. Please update the Display Program.
2. The diagnostic program for the vehicle make is damaged. Please re-download the diagnostic program and update.

Question: Why can't the main unit recognize the replaced CF card?

Answer: There are two possible causes:
1. The original 32M CF card has not been fully copied. Please delete the incomplete file and copy again.
2. The CF card reader/writer is not compatible with the CF card. Monofunctional CF card reader/writer is better in such situation.

Question: How to make a new X-431IV CF card when the data in old one is lost or damaged?

Answer: In case X-431IV CF card is damaged and the program in the card cannot be used, please use the following procedure to make a new CF card:

1. Log onto the website "www.X431.com". Enter your username and password to log in.

   Select the SMARTBOX No., and then download the following programs into your computer:

1) Necessary programs for making CF card:

- X431 SERIES UPDATE TOOLS---- for writing the program from computer to CF card when doing X431 update
- DISPLAY PROGRAM---- for displaying the X-431IV diagnostic information and managing the X-431IV diagnostic programs
- SYSTEM DATA---- system data used by X-431IV system

2) Optional programs that can be selected according to user's demand:
Diagnostic program for various vehicles

2. Install the X431 SERIES UPDATE TOOLS into computer.

3. Format the X-431IV CF card.

4. Run the X431 SERIES UPDATE TOOLS and write the display program, system data and diagnostic programs onto CF card.

6.2 About Hardware

Question: After X-431IV downloads the diagnostic program from the CF card it prompts "Please contact your local dealer". What is the reason?

Answer: It is because the license No. in CF card does not match the SMARTBOX. It can be solved in the following way:
1. Download the software that is corresponding to the SMARTBOX so that the CF card can match the SMARTBOX.
2. Use the UPDATE TOOL that is provided on http: // www.X431.com for update. Never use WINZIP or other decompressing tool for update.

Question: Why does the LCD screen respond so slowly?

Answer: It is because the ambient temperature is close to the lower limit of operating temperature range (0-50℃). In this situation, it is necessary to warm up the machine for 20 minutes before test.

Question: Power cannot be turned on with the power button on the main unit after the machine is connected to vehicle diagnostic socket through cables and connectors. What can I do?

Answer: Check the power pin of vehicle diagnostic socket with multimeter for power. The power pin in diagnostic socket varies from one vehicle to another. Please refer to the User's Manual of specific vehicle diagnostic program to find the power pin. If there is no power supply from the diagnostic socket, please get power in other ways, such as from battery or cigarette lighter.

Question: There is no character on the backlit screen. What should I do?

Answer: Check if the power is well connected. Turn off the machine, unplug the power connector and re-plug it. Turn on the machine after it has been connected to the power for 1 second.

Question: Why does X-431IV fail in communication with ECU?

Answer: Please make sure that the diagnostic connector and diagnostic program are matching vehicle make.

Question: The screen keeps blank after flashing when the machine is turned on. What should I do?

Answer: Take out the CF card and re-start the machine to see if there is normal display. If the display is normal when the CF card is taken out, the CF card should be replaced. If the screen is still blank, please contact the local service engineer.

Question: Why does the system prompt that no CF card is found when the machine is turned on?

Answer: The possible cause is that no CF card is in the machine, or CF card is inserted improperly or damaged. If it is damaged, it is necessary to make a new one.

Question: What should I do if I can't get into the diagnostic interface during test?

Answer: The possible cause is that no CF card is in the machine, or CF card is inserted improperly or damaged. If it is damaged, it is necessary to make a new one.

Question: What can I do if the system halts or fails during self-detection?

Answer: Please make sure that cables and CF card are well connected.

Question: Why can't the data be inputted after Soft Keyboard is activated?

Answer: The position where the cursor lies can't be edited. Or you have not activated the cursor on the input position. Please use the stylus to click the part to edit. When the cursor twinkles, you can input the data.

Question: The screen is inactive after the cross cursor appears on the screen. Why?

Answer: The system is calibrating the touch screen. The machine will work after the screen is calibrated. Refer to the section "Calibrate Touch Screen" in User's Manual".

Question: Why does the saved data disappear?

Answer: There are two possible causes:
1. Your CF card is damaged.
2. You've changed language and the data is related to language. You may find the data after switching back to the former language.

Question: How to know what applications (interfaces) are opened.

Answer: Click the active taskbar icon, then the pop-up list will display the applications (interfaces) opened.

Question: Why can't I do operation in current interface?

Answer: There are two possible causes:
1. Your current interface has exited illegally. In this situation, you may not see the name of the application (interface) in the pop-up list when you click the active taskbar icon.
2. The system is busy, please wait patiently, or click the active taskbar icon to switch to another application.

Question: The listed icons of vehicle make occupy more than one page of screen. I may have to turn several pages to find a specific icon of vehicle make. How can it be simplified?

Answer: X-431IV can test many vehicle makes and the vehicle makes are still increasing. We have considered the convenience when designing the software. The system will count the clicks and move the icon with more clicks forward.

6.3 About System Setting

Question: The screen is too white and characters cannot be seen. What is the reason and what should I do?

Answer: It may be caused by improper contrast. Please refer to the section "Contrast" to adjust the contrast.

Question: The screen is inactive after the cross cursor appears on the screen. Why?

Answer: The system is calibrating the touch screen. The machine will work after the screen is calibrated. Refer to the section "Calibrate Touch Screen" in User's Manual".

Question: The screen does not respond or responds wrongly when I click it with stylus. What should I do?

Answer: It is necessary to calibrate the screen. Please refer to the section "Calibrate Touch Screen" in User's Manual.

Question: The time displayed in the lower right corner of the screen is incorrect. How to adjust it?

Answer: It is because the time was set incorrectly. Please refer to the section "Clock" in the User's Manual to set correct time.

6.4 About Operation

Question: System halts when reading data stream. What is the reason?

Answer: It may be caused by a slackened connector. Please turn off the machine, firmly connect the connector, and switch on the machine again.

Question: Why is the screen inactive when the cross cursor is clicked during screen calibration?

Answer: You may have touched the screen when the system is detecting noise before the cross cursor appears. Please turn off the machine and then turn on. Calibrate the screen after the cross cursor appears.

Question: Why is the machine automatically powered off during standby?

Answer: It is because the machine has been set for energy saving. Automatic shutdown will take place if the machine is not operated for a specified period of time. Refer to the section "Power management" in User's Manual to set the "Power off time" to "None" or select a longer standby time.

Question: Why can't the tested result be printed out?

Answer: There may be no paper in the printer or the printer. Please mount a roll of new paper. See the section "Printer Operation" in the User's Manual.

Question: Why is there no character in the printed-paper?

Answer: The paper is mounted reversely. Please take out the paper and mount it again. See the section "Printer Operation" in the User's Manual.

Question: The displayed information cannot be seen clearly when the ambient light is not good. What should I do?

Answer: There is a [ ] icon at the lower right corner of the screen. Click it to turn on the backlight so as to see the displayed information clearly. Click the icon again for turning off the backlight.

Question: Why can't I input data after activating Soft Keyboard?

Answer: The position where the cursor lies can't be edited. Or you have not activated the cursor on the input position. Use the stylus to click the part to edit. When the cursor twinkles, you can input the data.

Question: What should I do if I am not able to switch from Active Taskbar to the running application interface?

Answer: Please close interfaces related to the application, such as the Help or Detail.

Question: Why does the saved data disappear?

Answer: There are two possible causes:
1. Your CF card is damaged. It is necessary to make a new CF card.
2. You've changed language and the data is related to language. You may find the data after switching back to the former language.

Question: What can I do when the screen is confused?

Answer: Please quit the current application (interface), and run it again. If the problem still exists, please restart the system.

Question: How to know what applications (interfaces) are opened.

Answer: Click the active taskbar icon, then the pop-up list will display the applications

(interfaces) opened.

Question: Why can't I do operation in current interface?

Answer: There are two possible causes:
1. Your current interface has exited illegally. In this situation, you may not see the name of the application (interface) in the pop-up list when you click the active taskbar icon.
2. The system is busy, please wait patiently, or click the active taskbar icon to switch to another application.

6.5 Questions Related to Vehicle

Question: Why does the screen flickers during engine starting?

Answer: It is caused by the electromagnetic interference. No problem with X-431IV.

Question: Why is operation interrupted during diagnosis?

Answer: It may be caused by electromagnetic interference or incorrect connection of connector.

Question: Why is there no response from vehicle ECU at communication?
Answer: Make sure that the voltage of vehicle battery, ignition timer and idle speed are in standard range; the throttle is in the closed position; and all electric devices, such as A/C, headlight, stereos etc, are turned off. Refer to the section "Conditions for Test".

Question: Some systems cannot be diagnosed. Why?

Answer: The diagnostic socket for the system on some early vehicle may be separated. Refer to the vehicle instruction manual.

Question: No trouble code is found. Why?

Answer: It may be caused by the shared circuit. Find the nearest trouble code and circuit for analysis.

Question: Why are there too many trouble codes?

Answer: It may be caused by poor contact or poor grounding. Make sure that the vehicle model/year is selected correctly and the vehicle is equipped with the system.

6.6 Maintenance

Storage

- Leave X-431IV where it's smooth, dry and with suitable temperature.
- Do not leave X-431IV where it's may be exposed to direct sunlight or near a heater.
- Do not place it near a stove or may be susceptible to smoke corrosion or expose to water and oil.
- Do not place it where it may be expose to shake, dust, moisture or high temperature.
- If the main unit is very dirty, please clean the out shell or screen with a soft and dry cloth. Please note to shutdown the machine, plug out the power before clean.
- If the machine is not used to diagnose vehicles for a long time, please actuate X-431IV main unit regularly to avoid expose to moisture.

Take Care of the Screen

- When entered Calibrate Touch Screen interface, never click on the touch screen until the cross cursor appears.
- Do not place an irrelevant stuff on the surface of the main unit, avoid heavy pressure, which may cause damage to the inner components.
- Do not place the machine near electrical appliance, which incurs electromagnetic interference.
- It's better to click the screen with stylus, do not click on the screen with fingernail or sharp stuffs (hard object) to avoid scratch.
- The LCD may be apt to dust, suggest using the specific cleaning cloth for LCD screen to wipe the screen carefully, do not remove dirty with fingernails to avoid scratch.
- Do not clean the screen with mechanical detergent.
- If X-431IV is not used for a long time, please switch off X-431IV main unit to save power and extend the life span of the screen as well.

Maintenance of CF card

- Do not take out the CF card when the main unit is running.
- Take out the card when the main unit is shutdown. Please prevent the card from electromagnetic; the main unit should be kept far away from the magnetic field. Do not power on and off the main unit frequently.
- CF card is necessary for online upgrading. Do not remove the CF card when the card reader is in use, otherwise, data in the card may be lost. Follow the below steps to take out the CF card: open 'My Computer' interface on the desktop, right click 'removable disc' and select '"Eject (J)' in the pop-up menu, then you can remove the card. If remove the card without doing this, the input data would be lost.
- In case X-431IV CF card is damaged and the program in the card can not be used, please use the following procedure to remake the CF card:
  - ♦ Log onto the website "www.X431.com". Enter your username and password to log in. Select the SMARTBOX No., and then download the X-431IV SERIES UPDATE TOOLS, DISPLAY PROGRAM, SYSTEM DATA and necessary diagnostic program into your computer.
  - ♦ Install the X-431IV SERIES UPDATE TOOLS into computer.
  - ♦ Format the X-431IV CF card.
  - ♦ Run the X-431IV SERIES UPDATE TOOLS and write the display program, system data and diagnostic programs onto CF card.

Consumption Material

- X-431IV consumes heat sensitive paper with sizeΦ30×57mm (inner hole isΦ7mm).
- Printing paper is consumable, not to replace it timely.

6.7 Get help

X-431IV enables users to get help on the unit or on the website.

When testing vehicles, users can get help information for any current interface with the use of [Help] button or ⓘ icon in each interface. For more information about the latest products or diagnostic information, please visit website at http://www.cnlaunch.com or http://www.x431.com; you will sure get more considerate help.

7. Appendix 1: about VIN

VIN is the abbreviation of Vehicle Identification Numbers.

A car's vehicle identification number (VIN) is the identifying code for your SPECIFIC automobile. It is your car's fingerprint.

It sets your vehicles apart from the millions of vehicles out there. Recently the VIN is reflected by 17 digit characters. It displays a car's uniqueness and manufacturer and provides a method to trace your car from the factory to the junkyard.

Each character or digit has a particular purpose. They are as follows:

- First vehicle identification number digit identifies the country from which the vehicle was manufactured. For example, U.S.A. (1 or 4), Canada (2), Mexico (3), Japan (J), Korea (K), England (S), Germany (W), Italy (Z).

- Second vehicle identification number digit specifies the manufacturer. Audi (A), BMW (B), Buick (4), Cadillac (6), Chevrolet (1), Chrysler (C), Dodge (B), Ford (F), GM Canada (7), General Motors (G), Honda (H), Jaguar (A), Lincoln (L), Mercedes Benz (D), Mercury (M), Nissan (N), Oldsmobile (3), Pontiac (2 or 5), Plymouth (P), Saturn (8), Toyota (T), Volvo (V).

- Third vehicle identification number digit indicates the vehicle type or manufacturing division.

- Fourth through eighth vehicle identification number digit reveals the vehicle features such as body style, engine type, model, series, etc.

- The ninth vehicle identification number digit is a VIN accuracy check digit, verifying the previous VIN numbers. This is how the check digit works:

  - STEP 1
    Assign to each number in the VIN its actual mathematical value and assign to each letter the value specified for it in the following chart:

    ASSIGNED VALUES:
    A=1 G=7 P=7 X=7
    B=2 H=8 R=9 Y=8
    C=3 J=1 S=2 Z=9
    D=4 K=2 T=3
    E=5 M=3 U=4
    F=6 N=4 V=5

  - STEP 2
    Multiply the assigned value for each character in the VIN by the position weight factor specified in the following chart:

    VIN POSITION AND WEIGHT FACTOR:
    1st = 8 10th = 9
    2nd = 7 11th = 8
    3rd = 6 12th = 7
    4th = 5 13th = 6
    5th = 4 14th = 5
    6th = 3 15th = 4
    7th = 2 16th = 3
    8th = 10 17th = 2
    9th = check digit

  - STEP 3
    Add the products from steps 1 and 2 and divide the total by 11.

  - STEP 4
    The numerical remainder is the check digit, which would appear in the 9th position in the VIN. If the remainder is 10, then the letter "X" is used for the check digit.

- Tenth vehicle identification number digit tells the model year. 1988 (J), 1989 (K), 1990 (L), 1991 (M), 1992 (N), 1993 (P), 1994 (R), 1995 (S), 1996 (T), 199 7(V), 1998 (W), 1999 (X), 2000 (Y)------2001(1), 2002 (2), 2003 (3), 2004 (4), 2005 (5), 2006

(6), 2007 (7), 2008 (8), 2009 (9).

- Eleventh vehicle identification number digit reveals the assembly plant for the vehicle.

- The twelfth to seventeenth vehicle identification number digits indicate the sequence of the vehicle for production as it rolled of the manufacturers' assembly line.

Your VIN can be used to track recalls, registrations, warranty claims, thefts and insurance coverage.

Common locations of the vehicle identification number (VIN) vary but the following are places to look:

- Firewall of the vehicle
- Left hand inner wheel arch
- Steering column
- Radiator Support Bracket
- Dash by windshield
- Drivers door or post on passenger side
- Guarantee & Maintenance Book *Vehicle documents
- Machined Pad on front of engine
- Component parts as listed above e.g. engine, frame, etc.

Later model years - most common areas of VIN:
- Left instrumentation/dash panel by window
- Drivers door or post
- Firewall

Warranty

THIS WARRANTY IS EXPRESSLY LIMITED TO PERSONS WHO PURCHASE LAUNCH PRODUCTS FOR PURPOSES OF RESALE OR USE IN THE ORDINARY COURSE OF THE BUYER'S BUSINESS.

LAUNCH electronic product is warranted against defects in materials and workmanship for one year (12 months) from date of delivery to the user.

This warranty does not cover any part that has been abused, altered, used for a purpose other than for which it was intended, or used in a manner inconsistent with instructions regarding use. The exclusive remedy for any automotive meter found to be defective is repair or replacement, and LAUNCH shall not be liable for any consequential or incidental damages.

Final determination of defects shall be made by LAUNCH in accordance with procedures established by LAUNCH. No agent, employee, or representative of LAUNCH has any authority to bind LAUNCH to any affirmation, representation, or warranty concerning LAUNCH automotive meters, except as stated herein.

Disclaimer

THE ABOVE WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Order Information

Replaceable and optional parts can be ordered directly from your LAUNCH authorized tool supplier. Your order should include the following information:

1. Quantity
2. Part number
3. Item description

Customer Service

If you have any questions on the operation of the unit, please contact us:

Tel: 86-755-84528767

If your unit requires repair service, return it to the manufacturer with a copy of the sales receipt and a note describing the problem. If the unit is determined to be in warranty, it will be repaired or replaced at no charge. If the unit is determined to be out of warranty, it will be repaired for a nominal service charge plus return freight. Send the unit prepaid to:

Attn: Customer Service Department
LAUNCH TECH. CO., LTD.
Launch Industrial Park,
North of Wuhe Avenue,
Banxuegang, Bantian,
Longgang, Shenzhen, Guangdong
P.R.China, 518129

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