

User Manual (Uni-Device)

V3.23

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1. Unismart Introduction

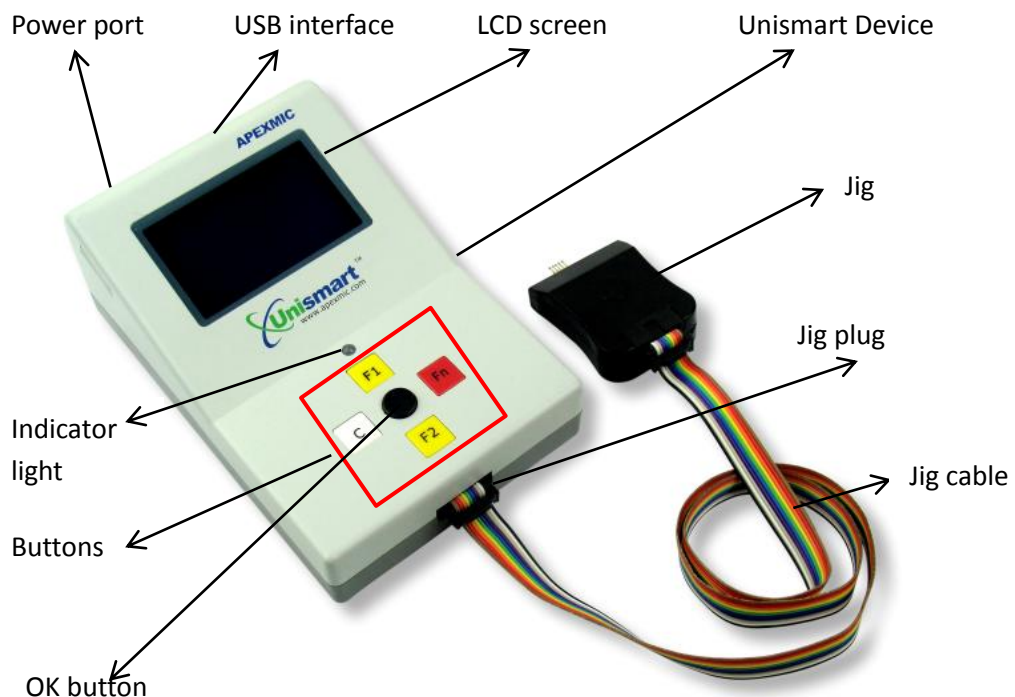
The Unismart (Simplified as “Uni”) system is an intelligent device developed by Apex Microelectronics. It consists of the Unismart Device capable of chip programing, resetting, detecting, and checking (In some part of this document, the Unismart Device may be referred to as the “Uni-Device”); and PCB chips pre-planted with encrypted programs. The system has the following features:

- Flexible: a blank chip can become a chip of any model among a large database; the program and check speed can be up to 1000-1500pcs/h.
- Environmental-friendly: blank chips can be reset, reprogrammed, recycled and reused.
- Integrated: the Uni-Device can program, reset, detect and check chips.
- Versatile: the Uni-Device covers a large number of OEM brands, including HP, Samsung, Lexmark, XEROX, BROTHER, CANON, DELL, EPSON, IBM, KYOCERA, LENOVO, LG, MINOLTA, OKI, RICOH, SINDOH, TALLY, TOSHIBA, etc.
- Convenient: the Uni-Device can be updated remotely.
- Exclusive: neither the blank chips nor the Uni-Device is compatible with equipment from other manufacturers; but a large number of OEM chips can be reset.

The Unismart system allows you to:

- Conveniently manage your stock.
- Cut down cost:
 - Resetting a chip costs less than a brand new chip.
 - Certain OEM chips resettable.
 - Save delivery time and costs.
 - Save testing costs by replacing printers in testing chips.
- Worry-free from OEM firmware upgrade and patent infringement.

2. Unismart II System Composition



2.1 Unismart Device (Uni-Device)

The core of the Unismart system, capable of programming, resetting, detecting, checking chips of multiple models, the Uni-Device can be updated remotely. Meanwhile, there are additional functions such as calculating the number of chip programmed/checked, encrypting, etc. The Uni-Device mainly consists of the Box, buttons, LCD screen, and jigs.

2.2 Jigs

The data communication connector between the Uni-Device and chips. Different jigs are used for interaction with the variety of chip model supported by the Unismart. Users can refer to “Uni Component Catalog” in choosing jigs they need.

The button on the jigs has the same function as the OK button on the Uni-Device.

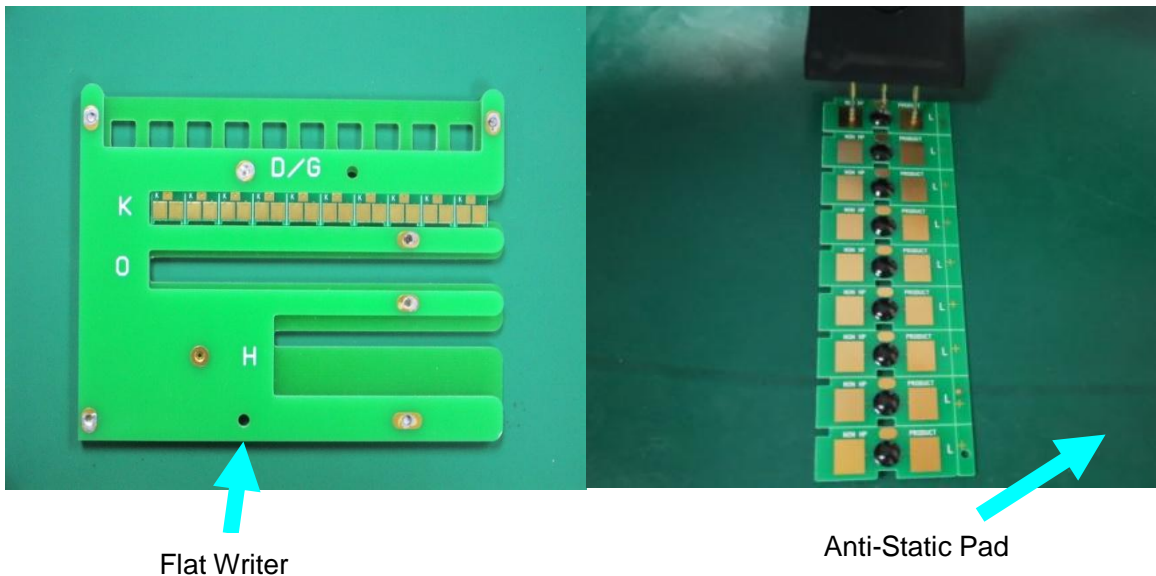
2.3 Unismart accessories

In order to increase operation efficiency, appended with the Unismart there are also a Flat Writer and an Anti-Static Pad.

- Flat Writer** Designed for quick operation with a whole strip of certain small-sized chips with protruding components.

- Anti-Static Pad** Designed for operation with chips having slippery back; preventing

chips from moving away and meanwhile decreasing static damage to chips.



3. Unismart Device Operation Guide

3.1 Power up the Uni-Device

Connect the Unismart's power adaptor to the nearby AC power socket; the DC output end should be connected to the Uni-Device's DC power port. After a short "BEE", the device starts standby, and the LCD screen is as shown by Figure 1 in power saving mode.

WWW.APEXMIC.COM
艾派克微电子
2014-10-10
18:00:00

Figure 1

Notices:

1. Power: output: AC100-240V 50Hz; input: DC15V / **2A**; the $\Phi 5.5$ plug's polarity is positive in the middle.
2. The Uni-Device can only be used together with the power adaptor provided by Apex; otherwise it might be damaged.
3. The time displayed by the Uni-Device can be set up through updating the device or through the Setup function mode. If the difference between the system time and the actual time exceeds 48h, the case should be considered an error and users should contact Apex for solution.

3.2 Turn on the Uni-Device

Under the power saving mode, press the black button to enter the main menu. Before entering, the remaining credits will be shown (See Figure 2 and 3).

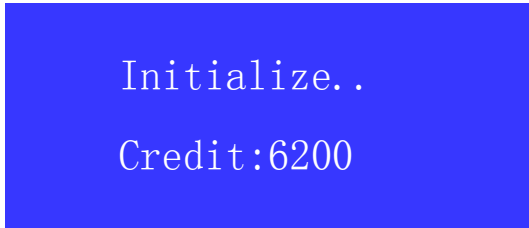


Figure 2



Figure 3

Cursor

3.3 Functions of buttons

- **F1:** a. Up
 - b. Quickly switch to a certain screen. In the Scan interface, after the chip model has been scanned, pressing F1 can get the screen to chip model's "Apex Check" interface.
 - c. Switching among operation modes. In the chip program/check mode, pressing F1 can switch among "Apex Check", "Apex Program", "OEM Reset" and "OEM Check".
 - d. Increasing figure; eg. in the "Model Search" interface.
- **F2:** a. Down; b. Decreasing figure; eg. in the "Model Search" interface.
- **C:** a. Return; b. Left.
- **Fn:** a. Right. b. Jump to 3 lines downward; activated on "Select PCB" and "Select Type" interfaces.
- **Black button:** Confirm; OK.

3.4 Uni-Device language and environment setting

In the main menu, move the cursor to "Setup", press confirm button to enter the interface shown by Figure 4. Move the cursor to "Language&Time", press the confirm button to enter the interface shown by Figure 5. Then move to "Language". After confirming, move the cursor to "English" or "Русский" in Figure 6 and press confirm button.



Figure 4



Figure 5

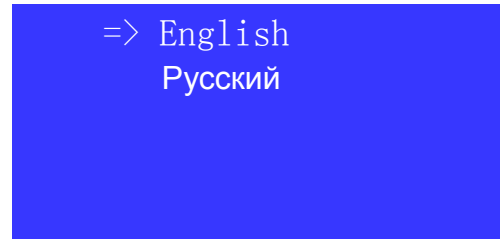


Figure 6

Now the language of Unismart has been set. You can press C to return to main menu.

Notice: by now the Unismart system only supports two languages: English and “Русский”.

3.5 Functions of Unismart Device

In the main menu, there are six function modes available: Scan, Unismart, Credit, Setup, Update, and Help. Go to the mode by moving cursor. The details of these modes are illustrated in the following text.

3.5.1 Unismart mode

Program or check chips. There are three sub-menus: Brand, Select PCB, and Select Type. There are 4 major functions: Apex Check, Apex Program, OEM Reset, and OEM Check.

Taking the cartridge model Q5949A as example, this document is to show you the two major functions here: Apex Program and Apex Check.

Step I: model search

1. In the main menu, move the cursor to “Unismart”. Press OK button to enter.
2. Move the cursor to choose “HP” and see the following screen.

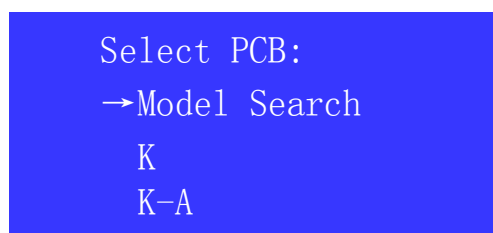


Figure 7

3. There are two method to find the corresponding model:
 - Method 1:** search the model (recommended)
 - a. Move the cursor to “Model Search” and press OK to see this screen:

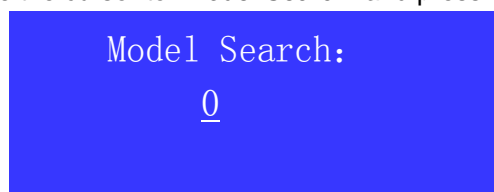


Figure 8

- b. Press F1 or F2 to add or decrease the figure, until the first figure becomes **5**.
- c. Press Fn to move to the next figure. Add or decrease it with F1 or F2 until it becomes **9**.
- d. Following this method until you get "5949". Confirm and the device will find all models containing "5949" under "HP".

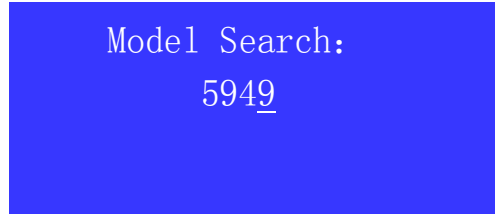


Figure 9

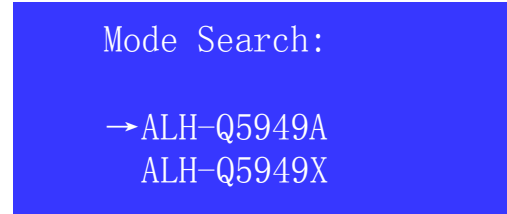


Figure 10

- e. Move the cursor to "ALH-Q5949A". Confirm and enter the program/check interface of this model.

Notices:

1. In the Model Search interface, only number 0-9 can be input. 6 figures at most can be input. Pressing C can return to the last figure you have input.
2. The Model Search can find models of most brands through cartridge model; for some brands, the search must be done through giving printer model. If you still cannot find the needed model, please look up to the Unismart Reference Table to see whether this model is covered by the Unismart. If it is, you can find the model through Method 2.
3. To prevent credit waste due to incorrect operation, APEX CHECK function is default when entering chip program/check.

Method 2: Choose according to the PCB type in the catalogue.

- a. Refer to the "PCB Code" column in "Reference Table (Uni-APEX)", search for "Q5949A" and find the corresponding PCB Code "L".
- b. In the Uni-Device, choose "HP" and enter "Select PCB". Press F1 or F2 to choose among PCB type, until the cursor points at "L". Press confirm button and enter "Select Type" interface.
- c. Press F1 or F2, until the cursor reaches "ALH-Q5949A". Pressing confirm button can go to chip program/check (APEX CHECK function is default).

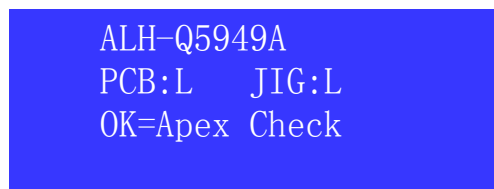


Figure 11

Step II: chip program/check

1. Make sure you get the correct blank chip and jig: in the case of this example, in the chip program/check interface, the second line shows 「PCB:L 」 and 「JIG:L 」, meaning that a blank chip with code "L" and a jig with label "L"

should be used.

2. In the interface shown by Figure 11, press F1 for several times until the third line shows "Apex Program xx"; see below.

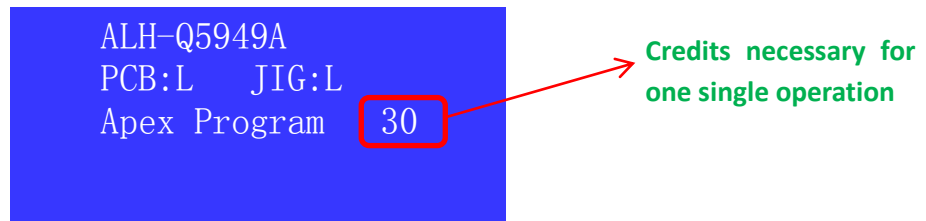


Figure 12

3. Connect the jig and the Uni-Device. Put the L chip on the Anti-Static Pad.
4. Refer to the "JIG" column in the "Reference Table(Uni-APEX) " and find the corresponding jig and chip position photo of chip Q5949A.



5. Press the confirm button on the device or the jig. Wait for the screen to show "Program OK" and the light above F1 turns green; at the same time there will be a "Bee". The screen is as followed:

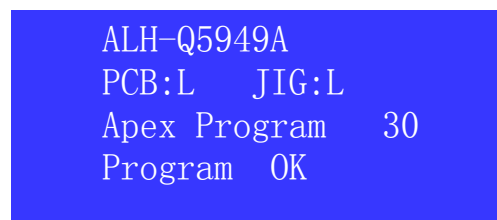


Figure 13

6. Now the L chip has been programed into an "ALH-Q5949A" chip.
7. In the interface in step 5, press F1 to go to the interface shown by Figure 14. Here the chip can be checked. Connect the jig with the chip, press the confirm button on the device or the jig, and wait for the screen to show "Check OK" (Figure 15) and the light above F1 turns green. At the same time there will be a "Bee". This means that the chip is good.

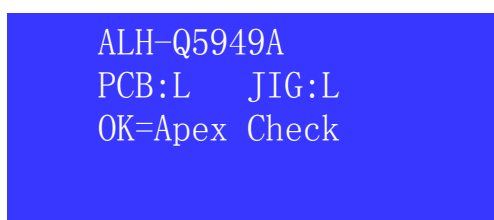


Figure 14

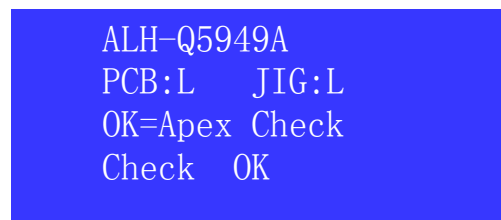


Figure 15

Notices:

1. During chip program/check, if the chip model is Apex's model, please refer to "Reference Table (Uni-APEX)". If the chip is OEM chip, please refer to "Reference Table (Uni-OEM)". This makes sure the chosen PCB and jig are correct, and thus the Program and Check can be successful.
2. The universality of Unismart blank chip hardware and the reprogram function of Uni-Device allow reprogramming different data into chips of the same size. Therefore, a used chip with good hardware can be reset or reprogrammed into a new chip by Uni-Device.
3. It is recommended to disconnect power if the Uni-Device is to be idle for long.

3.5.2 Scan mode

Read the printer brand and Unismart product model of a Unismart chip with data written.

➤ Scan operation

1. In the main menu, move the cursor to "Scan"; confirm to enter.

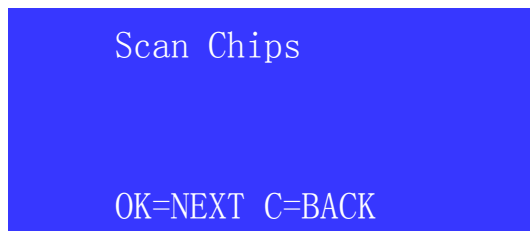


Figure 16

2. Take the Q5949A chip in 3.5.1 as example. Connect chip with the L jig, and press the confirm button on the device or the jig. Wait for the screen the change, and the light above F1 turns green. At the same time there will be a "Bee". The screen will show the following message:

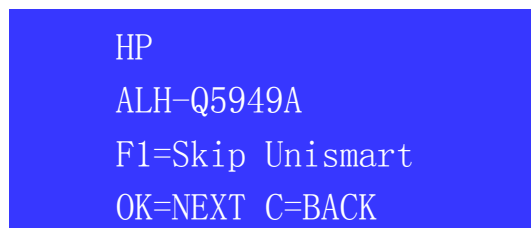


Figure 17

3. As the third line on the screen, press F1 to go to chip program/check interface.
4. The fourth line says: "OK=NEXT C=BACK". Press OK to scan the next chip; press "C" to return to the main menu.

Notices:

1. For new chips, detailed model can be scanned; for blank chips and chips that have been installed on printers, the result is "Cannot find"; for damaged chips, the result is "Comm. Fail";
2. For **Apex's** chips of EPSON and HP 02/88/363 series, both new chips and chips have been installed can be scanned to find out detailed model, and also remaining ink level and manufacture date.
3. **SAMSUNG OEM chips cannot be scanned; otherwise they might be damaged.**

3.5.3 Credit mode

Record the ID of the Uni-Device and remaining credits.

1. In the main menu, move the cursor to "Credit". Press OK and the screen displays:

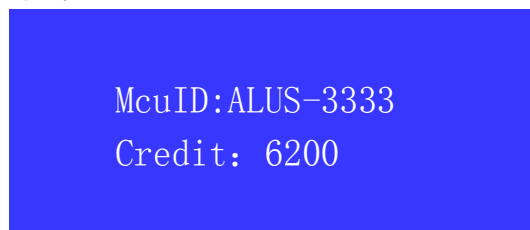


Figure 18

The first line says that the device ID is ALUS-3333; and the second line says there are 6200 credits remained.

3.5.4 Setup mode

Here users can check the software versions of the Uni-Device and the jig, battery life and system time display; users can also set up the system time and language.

In the main menu, move the cursor to "Setup". Press OK and the screen displays:



Figure 19

1. Firmware: check the software versions of the device and the jig.

Connect the jig you want to check with the device. Move the cursor to "Firmware" and press OK. The screen will display:

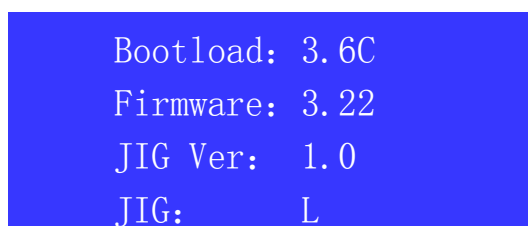


Figure 20

Line 1 shows that the hardware version of the Uni-Device is 3.6C.

Line 2 shows that the software version of the device is 3.22.

Line 3 shows that the jig version is 1.0.

Line 4 shows that the jig code is L.

Notice: if no jig is connected to the device, line 3 and line 4 will not be shown.

2. Battery Life: check battery life of the Uni-Device.

Move the cursor to “Battery Life”, press OK and the screen shows the remaining battery:



Figure 21

Notice: when only the last section of the battery life is left, the lithium battery in the device must be replaced. (Remove the screw at the middle of the bottom of the device)

3. Display Time: check the system's date and time

Move the cursor to “Display Time”. Press OK and the screen will display:



Figure 22

4. Language & Time: Set the system's language, date and time

Move the cursor to “Language & Time”, Press OK and the screen will display:



4.1 Setup Time: Set up date and time

Move the cursor to “Setup Time”. Press OK and the screen shows:



Figure 23

By pressing C and Fn, move the underline to the figure you want to change. Press F1 and F2 to add or decrease figure. The date and time set in the example is August 6, 2012, 19:30.

4.2 Language: Set system language. For details please refer to section 3.4 of this document.

3.5.5 Update mode

When users need to update the model database, or software version of the device, or recharge credits, after preparing the necessary data package, they need to get the device into this Update mode.

First, power up the Uni-Device, and connect it to the PC's USB2.0 interface with USB cable. Then, press OK to turn on the device. Move the cursor to "Update" and enter. The screen displays as Figure 24 shows. Press OK and the screen changes to Figure 25.

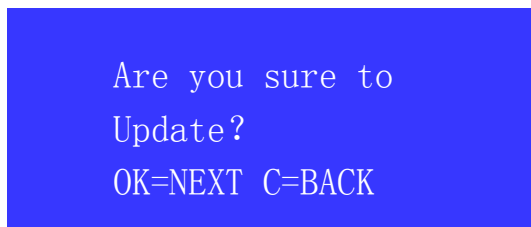


Figure 24



Figure 25

Notice: for the preparation of update data package and detailed update methods, please refer to "User Manual (Uni-Update)" on Apex's website.

3.5.6 Help mode

Help information: can analyze the information part of Epson inkjet chips and HP K-type laserjet chips; check credit consumption and update history; and check the contact information of Apex Microelectronics.

In the main menu, move the cursor to "Help". Press OK to enter and the screen is as followed:



Figure 26

1. Chip Analysis

Analyze the information of part of new or used Epson inkjet chips and HP K-type laserjet chips (both OEM and Apex's chips). Move the cursor to "Chip Analysis". Press OK and the screen shows:

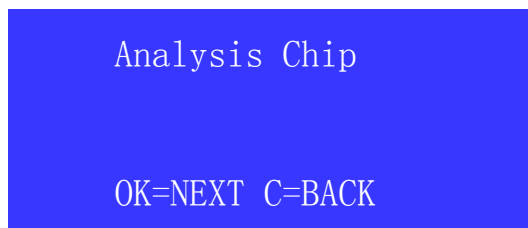


Figure 27

Find the corresponding jig on the Reference Table and connect the jig to the Uni-Device. Connect the jig with the chip and press the OK button on the jig or the device. Wait for the screen the change, and the light above F1 turns green. At the same time there will be a "Bee". The screen will show the following message:

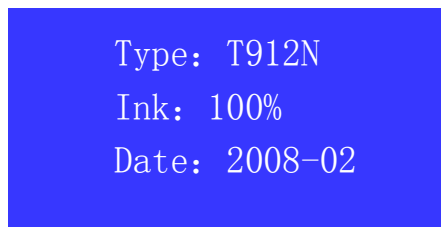


Figure 28

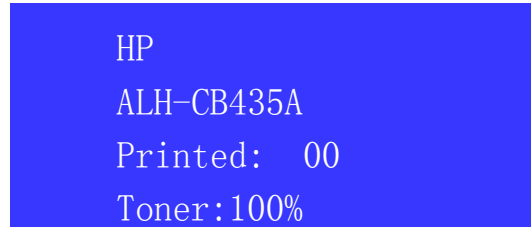


Figure 29

Figure 28 and Figure 29 respectively shows the analysis results of an Epson inkjet chip and a HP K-type chip.

"Type" stands for cartridge model; "Date" stands for manufacture date; "Printed" means the number of pages printed; "Ink" or "toner" stands for remaining ink/toner level.

Notice: Unismart cannot analyze models whose data are not contained in it.

2. **History:** check the history record of credit consumption and update.

Move the cursor to "**History**". Press OK and the screen shows:

1, -5
Credit: 6195
2014-10-10
18:05:00

2, +1000
Credit: 6200
2014-10-10
18:00:00

Of the left figure:

Line 1: 1, -5: the first record; 5 credits taken.

Line 2: Credit: 6195; the remaining credits at that time was 6195.

Line 3: 2014-10-10; the date when this record was left.

Line 4: 18: 05: 00; the time when this record was left.

Of the right figure:

Line 1: 2, +1000: the second record; 1000 credits have been recharged into the device.

Line 2: Credit: 6200; the remaining credits at that time was 6200.

Line 3: 2014-10-10; the date when this record was left.

Line 4: 18: 00: 00; the time when this record was left.

Notice: users can only view the latest 1024 records.

3. Contact Us: methods to contact Apex Microelectronics.

If you have any
question, please
call 07563333768
Fax:0756-3333029

Or you can contact your account manager!

4. Jig message: Automatic back up the Jig version message. If necessary, we may need your help to provide this message.
5. Boot message: Automatic back up the device bootload message; If necessary, we may need your help to provide this message;

Notice: Any questions you meet, you can refer to "Uni FAQ". All relative documents mentioned in this manual can be downloaded at Unismart II module in our website: www.apexmic.com.