User Guide
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Chapter 1  Introduction

STAR S86 GPS - System Summary

STAR S86 combines the advantages of SOUTH series RTK products, engaging advanced technology and the concept of continuous innovation, bringing the most advanced surveying solution to surveyors, offers higher accuracy and more reliability. STAR S86 includes built-in radio, and GSM/GPRS or CDMA modules used simultaneously or separately, allowing longer baselines within the mobile network. STAR S86 features the ARM framework with a 400MHz CPU kernel, accommodating multi-tasking, faster processing in real time. STAR S86 uses USB MASS STORAGE standard protocol, for faster speed and flexible operation.

STAR S86 has the following features:
(1) Integrated design, high quality screen, and convenient operation.
(2) The core technology of data link has improved typical RTK baselines, STAR S86 features built-in transmitter radio eliminating the need for cable and heavy external battery.
(3) The built-in batteries package insures 12 hours work time, housed in the receiver enclosure and charging by plug in power.
(4) STAR S86 has built in radio, built in GSM/GPRS module or CDMA module to user requirements.
(5) STAR S86 adopts the latest ARM 9 400MHz CPU, faster processing speed, more memory and faster real time processing.
(6) The powerful OS features multi-tasking utilising the standard compact disk file system; STAR S86 is more reliable and stable. Convenient data management and maintenance.
(7) File system using USB MASS STORAGE standard protocol, provides faster downloading speed.
(8) All-alloy enclosure is shock-proof, dust-proof, water-proof design, latest radio shielding.
Technical Specification

1) Channels (extend 72 channels):
   14L1+14L2 GPS 2 SBAS
   12L1+12L2 GLONASS (optional)

2) Accuracy:
   Static horizontal accuracy: 3mm + 1ppm
   Static vertical accuracy: 5mm + 1ppm
   Static work range: <= 100km
   RTK horizontal accuracy: 10mm + 1ppm
   RTK vertical accuracy: 20mm + 1ppm
   RTK work range (built-in radio): <= 7km (external radio) <= 10km
   RTK Initialization time: typical 15 seconds

3) Communication:
   Standard USB protocol, USB2.0, serial port (RS-232), Bluetooth

4) Data link: 0.5W~2W, GPRS/CDMA (internal) and 25W (external)

5) Physical parameters:
   Dimension (L x W x H): 154 x 154 x 78mm
   Weight: 1.35kg
   Operating temperature: -30°C~65°C
   Storage temperature: -40°C~85°C
   Housing: All-alloy enclosure
   Waterproof
   Dust-proof: IP65

6) Electric parameters
   (A) Two built-in lithium batteries packages
      Operating time: 15 hours to 20 hours (full charged)
      Charging time: 9 hours
   (B) Power: <1.8W
      External power supply: 10V~15V DC

Note: The specifications are available when 5 or more satellites are visible, following the recommended procedure in product manual. Severe multi-path effect, volatile ionosphere environment and HDOP value will influence the
performance severely.

**Standard Configuration List**

The standard configuration of STAR S86 (1+1) is as follow table,

<table>
<thead>
<tr>
<th>Items</th>
<th>QTY.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAR S86 Base Station</td>
<td>1 unit</td>
<td></td>
</tr>
<tr>
<td>Charger of Receiver</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Carrying Case</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Soft bag</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Plummert and Tribrach &amp; connector</td>
<td>1</td>
<td>Standard Configuration</td>
</tr>
<tr>
<td>All-direction Antenna</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HI Measuring plate</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Measuring Tape</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>STAR S86 Rover Station</td>
<td>1 unit</td>
<td></td>
</tr>
<tr>
<td>Charger of Receiver</td>
<td>1 set</td>
<td></td>
</tr>
<tr>
<td>Carrying Case</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Soft bag</td>
<td>1</td>
<td>Standard Configuration</td>
</tr>
<tr>
<td>Plummert and Tribrach &amp; connector</td>
<td>1 set</td>
<td></td>
</tr>
<tr>
<td>All-direction Antenna</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HI Measuring plate</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Measuring Tape</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Controller</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lithium Battery of Controller</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Charger of Controller battery</td>
<td>1 set</td>
<td></td>
</tr>
<tr>
<td>Receiver-controller Cable</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SD card&amp; Reader</td>
<td>1 set</td>
<td></td>
</tr>
<tr>
<td>BLUETOOTH</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Table-1 Standard Configuration List

Note: Users also can select 15w/25w high power radio or 2w/5w radio with affiliated cable, transmitting antenna.
Chapter 2 STAR S86 Hardware

2.1 Interface of receiver

STAR S86 receiver is as following figure 2-1,

![Figure 2-1 Screen of receiver](image)

STAR S86 receiver integrates the receiver, data collection, power supply, and radio module. With high quality LCD screen, all-alloy enclosure, and 3 proof designs, STAR S86 is built to withstand the harshest weather, roughest site conditions.
Figure 2-2 the port side of STAR S86

(1) Operation Button (refer to 3.1)
(2) LCD Screen (refer to 3.2)
(3) Slot for connecting plummet and tribrach
(4) Slot for SIM Card
(5) External Radio port, 5 pins
(6) Communication port, 7 pins
(7) Charger & External power supply port, 4 pins

Note: COM2 is for external radio. COM1/USB is for data transfer. CH/BAT is for charging and external power supply.
2.2 Charging

(1) STAR S86 battery package

The batteries packages are embedded on the two sides of receiver. After charged full, the built-in radio can work continuously for more than 10 hours.

Figure 2-3 dual batteries packages

(2) Charging the STAR S86

The charger of STAR S86 - AC adapter cable and plug.

Figure 2-4 Power plug
Figure 2-5 AC Adapter cable

1 —— 240V AC plug
2, 3—— Connect part
4 —— 4 pin plug, when you charge, you need insert it to the charging port on the receiver.
5 —— Indicator light of charger. When the light “CH1”, “CH2” turns red, indicating the battery is on charge. When the indicator turns green, the battery fully charged or the charger disconnected from the receiver.

The receiver is not affected by the charging cycle; however it is recommended that the receiver is turned off.
2.3 Communication Cable

Data communication cable is for downloading data, one connector has 7 pins, the other connector is the USB plug and serial RS232 plug, see as figure 2-6,

Figure 2-6 Data communication cable

Notice: when you insert the 7 pins plug to receiver, match the red point on plug with the red point the receiver.

Serial RS232 plug is for external function requirements.
2.4 Controller-PC Cable

Controller-PC cable is for communication between Psion controller and PC. It’s composed of two sections, one is connected with controller, and the other is connected with USB port in PC. See as figure 2-7.

Figure 2-7 Controller-PC cable
2.5 Keys and indicator lights

TX light indicates status of transmitting signal, RX light indicates status of receiving signal. BT light is Bluetooth light; DATA light is the data transmitting/receiving light. The keys from left to light are Reset key, two Function keys and Power key. The indicator information as follows,

<table>
<thead>
<tr>
<th>Items</th>
<th>Function</th>
<th>Function or status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power key</td>
<td>Power on/off, confirm, modify</td>
<td>Power on/off receiver, confirm edit items, select modified items</td>
</tr>
<tr>
<td>&amp;</td>
<td>Page up/down, return</td>
<td>Select modified items or return superior menu</td>
</tr>
<tr>
<td>Reset Key</td>
<td>Force to power off</td>
<td>Power off in special condition, collected data hasn’t any influence.</td>
</tr>
<tr>
<td>DATA light</td>
<td>Data indicator light</td>
<td>It will blink as collecting interval time or transmitting interval time</td>
</tr>
<tr>
<td>BT light</td>
<td>Bluetooth light</td>
<td>When Bluetooth connected, it will keep on</td>
</tr>
<tr>
<td>RX light</td>
<td>Receiving signal light</td>
<td>Blinks as transmitting interval time</td>
</tr>
<tr>
<td>TX light</td>
<td>Transmitting signal light</td>
<td>Blinks as transmitting interval time</td>
</tr>
</tbody>
</table>

1. **Static mode**
   DATA light blinks as collecting data interval time.

2. **Base mode (Radio)**
   TX, DATA lights blink as transmitting interval time at the same time.

3. **Rover mode (Radio)**
RX light blinks at transmitting interval time.
DATA light blinks at transmitting interval time after receiving differential signal.
BT light indicates Bluetooth connection.

4. GPRS module work mode
When GPRS connected, TX, RX lights blink alternately.
DATA light will blinks as transmitting interval time after receiving differential signal.
TX light remains on, indicating errors; the error type is defined by blinking sequence of
RX light flash: Loss of GPRS connection or subscription error; wrong APN, user name or password rejected by CORS network.
RX light blinks once: no base station or rover to connect, in VRS_NTRIP condition, it means error register code or waiting for verification, but the network is connected at this time.
RX light blinks twice: disconnection from server
RX light blinks 3 times: no antenna, bad signal, awaiting network signal.
RX light blinks 4 times: TCP connection timeout or the IP address or port is incorrect.
RX light blinks 5 times: unknown error.
If the TX and RX keep on at the same time, it means module is closed.

5. Radio

(1) Built-in radio (UHF)
STAR S86 adopts 0.5w or 2w UHF built-in transmitting radio, which can reach 2~5km typical baseline. The built-in battery package provides adequate energy for the built-in radio continuously work for around 10 hours.

(2) External radio
To operate the STAR S86 and communication over long baselines upgrade to external radio switch from internal 2/5w or 15/15w external radio.
Note: Always connect antenna to radio before use to avoid damage to the radio module.
(3) Module
STAR S86 includes a built-in GPRS/CDMA module for connection to CORS networks extending baselines, improving accuracy and reliability.
Chapter 3 STAR S86 Accessories

3.1 Instrument Case (soft bag)

The instrument case of STAR S86 has two layers; the external is hard Yellow case, which is suitable for long distance transport or removable inner soft bag See as figure 3-1.

![Instrument case](image)

**Figure 3-1 Instrument case**

The hard case is small size, durable and shockproof, convenient for washing. See as figure 3-2
Figure 3-2 Hard case
3.2 Battery and charger for Controller
About receiver battery and charger, please refer to chapter 2-2. About battery and charger for controller, see as figure 3-4, 3-5.

Figure 3-4 Charger

Figure 3-5 Controller battery
3.3 Transmitting/Receiving antenna of Data link

STAR S86 uses a 450MHz omni-directional antenna, this operates as both transmitting antenna and receiving antenna. See as figure 3-6.

Figure 3-6 Receiving & Transmitting Antenna
If using the external radio, attach the 5.5db omni-direction antenna, the appearance is as figure 3-7
3.4 Cables

1. Communication cable
Communication cable is for communication between the receiver and external radio, also has power supply function to allow receiver and external radio work for extended periods. See as figure 3-8

![Figure 3-8](image)

2. Receiver-controller cable
Receiver-controller cable is for communication between receiver and controller, see as figure 3-9
3. Multi-communication cable
Multi-communication cable is used for communication between receiver and PC.
Used for downloading static data and updating firmware.
See as figure 3-10
Figure 3-10 Communication cable
4. Other accessories
Bracket for controller

Figure 3-11 Bracket
Hi measuring plate
It’s used for measuring instrument height, see as figure 3-12.

Figure 3-12 Hi measuring plate

(1)—connecting hole
(2)—measuring edge
(3)—the distance is L=120mm
The HI measuring plate is placed between receiver and connector. See as figure 3-13
To measure the antenna height for a survey set up, measure the distance from the edge of measuring plate to a base point on the ground. SOUTH software will automatically compensate the measurement from the measure plate to the phase center of the antenna.
Chapter 4 Operation

Instruction of STAR S86 indicator light

1. Work in Static mode
   DATA indicator light will blink at collection interval time.
2. Work in Base mode (Radio)
   TX, DATA indicator light blinks at transmitting interval time at the same time.
3. Work in rover mode (Radio)
   RX indicator light will blink at transmitting interval time.
   DATA indicator light will blink at transmitting interval time after receiving differential data.
   BT (Bluetooth) indicator light be illuminated when Bluetooth is connected.

Initialization interface

At power up of the STAR S86 receiver, the initialization interface will be displayed,

![Initialization interface](image)

Figure 4-1 Initialization interface

There are two choices in this interface, setting mode and collection mode. To enter this interface click “F2” to enter setting mode, otherwise, the countdown on the upper-left ends, it will enter collection mode
Setting mode
The setting mode interface includes two main menus and a quit menu. The two main menus are that one is mode select menu and the other is system setting menu. select the menu that you need by pressing selection button (F1, F2), then press to confirm, see as figure 4-2.

![Mode Select Interface](image)

Figure 4-2 Setting interface

4.3.1 Mode select menu
After pressing the button mode select interface is displayed, see as figure 4-3,

![Static Mode Interface](image)

Figure 4-3
There are three work modes to select, static mode, base mode and rover mode. Make a selection. Press button or to select, the last menu is for returning parent menu.

(1) Parameters setting in static mode
Entering static mode interface, there are various parameters, such as mask angle, sample interval, record mode (there are two options, automatic and manual). When you select automatic, the receiver will collect static data automatically after receiving enough satellites and good PDOP value. If you select manual, press button to start after receiving enough satellites and good PDOP, see as figure 4-4

![Figure 4-4](image)

There are three options on the bottom of the interface: OK, Edit and Exit. To modify parameters, move the cursor to the “Edit”, then press button to start modify parameters. On completion, press to return to “OK”, then press button to confirm it, to cancel the modified operation, select “Exit”
The detailed operations are as follows,

Note: There are 3 special interval items, 0.1s, 0.2s and 0.5s, the GPS OEM main boards support. This option is available via a firmware upgrade.
Note: When you using several STAR S86 receivers together set all parameters the same.

(2) Parameters setting in base mode
Enter base mode interface, set parameters for base mode, see as figure 4-7,

![Figure 4-7](image)

There are 4 options in the interface. **differential type, auto start, record.**
The function or options are as follow:

**Differential type**: RTCA, CMR, RTCM2.x (include RTCM2.0 and RTCM2.3)
**Interval**: Transmitting interval, Default setting is 1 second.
**Auto start**: Two options,” Yes” or “No”, if you select “Yes”, the base station will transmit automatically after receiving enough satellites and good PDOP value. If you select “No”, the base station transmits manually after judging the satellite situation. “No” is default setting.
**Record**: In RTK mode, to record static data where GNSS or radio signal is poor, record static data and post-process to achieve high accuracy. “No” is default setting. See as figure4-8, 4-9,
Press to confirm to select the second setting interface, data-link settings. There are two options in this interface, *data link, and channel*. The
instructions are as follows:

**Data link:** Four options, UHF, GPRS, external, dual transmit.
To use internal radio, select “UHF”.
To use the GPRS/GSM/CDMA module, select “GPRS”.
For external radio, select “external”, for external radio and
GPRS/GSM/CDMA module select “dual transmit”

**Channel:** Channel means radio channel. There are 8 channels to choose from.
On completion press to return to main interface, and move the cursor to
“OK” and press to confirm your settings. The receiver returns to the
initialization interface. See as figure 4-10–4-15

![Figure 4-10](image-url)
Figure 4-11

Figure 4-12
Parameter settings in Rover mode
The rover mode parameters are the same as for base mode, set as for base mode.

4.3.2 System setting
There are five options in system setting interface, display setting, system info, self-check, file list, registration, the detailed operations and options are as follow:

Display setting: there are three options, contrast, rotation and time zone.
Adjust screen contrast in contrast setting.
Rotation is for page turnover, it has two options, automatic and manual.
There are several pages in collection interface, if you select automatic, these pages will display circularly, if you select manual, turn pages by pressing button.
On completion of parameters setting, press button to return parent menu.

**System info:** To check receiver serial number, firmware version, expired date and free space in memory. See as figure 4-18.

**self-check:** To test screen, LED and beeper, battery. See as Figure 4-19

**File list:** To check static data files in receiver memory. Check file size, start time, end time and so on. Pressing button when the cursor is on specific file
will pop up the confirm or delete options, where file detail is shown. see as figure 4-20.

![Figure 4-20](image)

**Registration:** Input registration code. Registration code can be entered here if PC connection is unavailable. Only the last 16 Characters are needed. see as follow figure,
Collection mode

(1) Static work interface

On selection of static mode in settings, the receiver enters static mode after power on. If you select manual, press the F1 button twice to start recording data. If you select automatic, the receiver will record data automatically. There are three satellite information interfaces in this mode; set page turning by automatic or manual. See as figure 4-22
To end data recording data press F2 button, the system will prompt to end recording data. Press F2 button again, the system prompts for closing file, to cancel this operation, press F2 button. See as figure 4-23,
(2) **Base work interface**

If base mode is selected in setting mode, the receiver will enter base mode after power on. See as figure 4-24

The word “TRANSMIT” will appear in the upper right corner of screen, press F1 button to enter base setup menu, see as figure 4-25,
There are three options in this menu, **SINGLE TRANS, REPEAT TRANS and EXIT** instructions are as follows,

**SINGLE TRANS:** Using local coordinate as base coordinate to transmit, on completion, save this coordinate as a base coordinate file. This coordinate is used to revisit or continue the survey.

**REPEAT TRANS:** To set the base station in the last position, use repeat transmit function, select the coordinate saved in receiver. See as the following figures,
The coordinate is calculated to the ground, input the antenna height before transmission, and see as below figure, Dev. Height. Measure from base point on the ground to the edge of Hi plate.

**EXIT:** If you want to do nothing in this interface, you can select this item. After selecting options, press F1 button to confirm to enter the interface as figure 4-15, press F1 button again to begin, when five satellites are in view and PDOP value less than three, “Start transmission!” will appear and TX and DATA light will blink at the same time. To stop transmitting, press button to stop, the system will remind you to save the base coordinate, the coordinate can be saved and used for repeat surveys.
1). Rover work interface

Selecting rover mode in setting mode, the receiver will enter rover mode at power on, see as figure 4-26,

![Figure 4-26](image)

There are two pages in the collection mode. It includes satellites number, map, PDOP value, radio channel, module in use, battery power, longitude, latitude, ellipsoid height and so on.

**Module setting**

Press button to enter module setting interface in rover work mode, see as figure 4-27,
Note: In base mode, enter module setting interface when the base station is transmitting signal, and only change module parameters setting including module and channel.

When the rover is connected to the base, to change radio channel or change from radio to GPRS/CDMA module, use the module setting interface, refer to 4.3.1 data link and channel settings.

To configure the radio, GPRS/CDMA module, enter config mode, connect the receiver with the PC program to make this configuration. See as follow figure 4-29,
Press button to enter configuration interface, then you can set parameters in PC program on connection, see as figure 4-30,
Figure 4-30
On completion, press any button to return to collection interface.
Chapter 5 Data Manage and Transfer

5.1 How to transmit data
Firstly, you need to connect the receiver to PC by USB cable. The PC will identify the receiver as a Flash Disk. Power on the receiver and connect it with PC, you will see a removable disk icon at the right bottom of the computer screen, see as figure 5-1.

Figure 5-1

[Image of a removable disk icon]
Then you will find a “Removable disk” in “My Computer”, opening the folder will show the data in receiver memory.

Figure 5-2
The record data file is *.sth, the editing time of file is the finishing time of recording data. Copy the static data from this directory directly.

Notice: The name of record data is composed of 8 characters, the first four characters is point name, the middle three characters is date, for example, 31st, Jan is 031. The last one is session.

5.2 The use of configuration file
When you open the file “CONFIG”, you will see it as follows:
Figure 5-3

<table>
<thead>
<tr>
<th>Name</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>47</td>
</tr>
<tr>
<td>Point Name</td>
<td>Four characters, from 0 to 9, a, b, c …… z</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Session</td>
<td>From 1 to 9</td>
</tr>
<tr>
<td>Ant Height</td>
<td>Unit is millimeter(mm)</td>
</tr>
<tr>
<td>Mask Angle</td>
<td>From 0 degree to 45 degree</td>
</tr>
<tr>
<td>Contrast</td>
<td>From 0 to 15</td>
</tr>
<tr>
<td>Language</td>
<td>Chinese language and English language</td>
</tr>
<tr>
<td>Serial Number</td>
<td>It’s composed of 27 digits and upper case characters.</td>
</tr>
</tbody>
</table>

If you delete the file “CONFIG”, it will regenerate automatically after you restart the receiver.

### 5.3 Register and upgrade

#### 5.3.1 Register

There are four methods for registration,

1. Modify configuration file, s60conf.ini (USB port). Please refer to figure 5-3. Replace the content of red frame, then save it. The registration code will be entered to the receiver.

2. Direct serial port command. Connect the receiver to your PC using serial port. Use any serial communication software (e.g. Super Terminal) to send the following command at the baud rate of 57600bps.

   \[ \text{REGI H098621123411122223334444} \]

   \( \text{NOTE: Your serial code should be different from the above one but with same formation. (COM port) See as following figure:} \)
4. Input the serial port from panel. Only the last 16 characters are required. See Registration in System configuration section. Please refer to 4.3.2 about registration.

Receiver Upgrade
To upgrade receiver firmware obtain the program *dnw.exe* and upgrade file *.bin*, the operation steps are as follow.
Connect receiver to PC by COM port first, don’t power on receiver
1. Firstly, run the software “DNW”, then click “Configuration”, from the window, select “115200” as the baud rate, and select the right Com Port.
2. Click “serial Port -> connect”, if COM port is set correctly, on the top of the window, you will see the information of them.
3. Power up STAR S86 receiver.
4.
You will see “please select function: ”, there are three options in below items, “0”, “1”, “2”, please select “1” in 3 seconds. (this is very important!)
Tap "transmit" to import the firmware file, select the bin file.
[BIOS_VERSION]=S86-3(U1)
[DEVICE_SERIAL]=1008610375
[HARDWARE_VERSION]=S86-3
[ANTENNA_TYPE]=S86-3
[MANUFACTURE_DATE]=2000/8/5

PLEASE SELECT FUNCTION:
0 -> [USB DOWNLOAD FILE]
1 -> [UART DOWNLOAD FILE]
2 -> [PROGRAM DOWNLOAD FILE]

NOW DOWNLOAD S86X BIN FILE...
“downloading …” will appear.
After “downloading…”, press “n”, and then select “2” in 3 seconds! (This is also very important!!)
**Stonex S86X BIOS V3.02**

http://www.stonexsurveying.com

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[Bios Version]-S86-3(V1)
[Device Serial]-T0886103375
[Hardware Version]-S86-3
[Antenna Type]-S86-3
[Manufacture Date]-2008/8/5

Please Select Function:
0 -> [USB download file]
1 -> [UART download file]
2 -> [Program download file]

Now download S86X Bin file...
Download Bin size - 291142
Loading Firmware ok...
Sure to RUN? [y/n]
The messy code on screen indicates you are successful!
Restart your receiver to run the upgraded version.
<table>
<thead>
<tr>
<th>0</th>
<th>[USB DOWNLOAD FILE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>[UART DOWNLOAD FILE]</td>
</tr>
<tr>
<td>2</td>
<td>[PROGRAM DOWNLOAD FILE]</td>
</tr>
</tbody>
</table>

NOW DOWNLOAD SR6X BIN FILE....
DOWNLOAD BIN SIZE = 286338
Loading FirmWare Ok...
SURE TO RUMT[y/n]?

PLEASE SELECT FUNCTION :
<table>
<thead>
<tr>
<th>0</th>
<th>[USB DOWNLOAD FILE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>[UART DOWNLOAD FILE]</td>
</tr>
<tr>
<td>2</td>
<td>[PROGRAM DOWNLOAD FILE]</td>
</tr>
</tbody>
</table>

UPDATE FIRMWARE SUCCESSFUL!
PLEASE SELECT FUNCTION :
<table>
<thead>
<tr>
<th>0</th>
<th>[USB DOWNLOAD FILE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>[UART DOWNLOAD FILE]</td>
</tr>
<tr>
<td>2</td>
<td>[PROGRAM DOWNLOAD FILE]</td>
</tr>
</tbody>
</table>

>Download Size = 286332
>Running FirmWare OK...