**AU6850C Slave-mode User Guide**

1. Overview  
   AU6860C can bi-directionally communicate with the host MCU.
2. Communication   
   AU6850C UART default features: Baud rate 4800 bps, NO sum-check, 8-bit data, 1-bit STOP
3. Data Send/Receive Timing

All host commands are in 5-bytes, upper bytes sent first. For example:

Ox5500ff09f6 is sent as 0x55 -> 0x00 –> 0xFF –> 0x09 –> 0xF6  
 Note:

1. 0x55 is the head of the command sent, the real command is the four byes following 0x55.
2. C51 storage mode is BIG-END mode, upper bytes are stored in the low address of the memory, and lower bytes are stored in the upper address of the memory.
3. LSB of each byte sent first, for example：

0x12 is sent as: 0 -> 1 -> 0 -> 0 -> 1 -> 0 -> 0 -> 0  
The rule of the order is same for slave-to-host and host-to-slave.

|  |  |  |
| --- | --- | --- |
| Name | Notes | Value |
| Play/Pause |  | 0x00, 0xFF, 0x09, 0xF6 |
| Stop |  | 0x00, 0xFF, 0x19, 0xE6 |
| Next | select the first if it is the last song | 0x00, 0xFF, 0x50, 0xAF |
| Prev | select the last if it is the first song | 0x00, 0xFF, 0x17, 0xE8 |
| Volume Sub |  | 0x00, 0xFF, 0x02, 0xFD |
| Volume Add |  | 0x00, 0xFF, 0x03, 0xFC |
| EQ | Specify EQ mode(0，1，2，3，4) as NORMAL、ROCK、POP、CLASSIC、COUNTRY | 0xXX, 0xFF, 0x0F, 0xF0 |
| Shift Device | change the working device（USB1 -> SD -> USB1） | 0x00, 0xFF, 0x53, 0xAC |
| Request State | request the state information | 0x00, 0xFF, 0x52, 0xAD |
| Request Info | request the information of current file | 0x00, 0xFF, 0x1E, 0xE1 |
| Set Repeat MODE | set or get the repeat mode | 0xXX, 0xFF, 0x07, 0xF9 Polling command：0x00FF07F9,return“\*MODEx#”,“\*MODE2#”means the 2nd repeat mode.  Setting command：if set to 2nd repeat mode，then the command is 0x02FF07F9 Repeat mode codes: PLAY\_REPEAT\_ALL PLAY\_RANDOM PLAY\_REPEAT\_ONE |

1. Command format
2. Slave Acknowledge
   1. ACK  
      When a command is handled successfully, ACK is returned;

When a command is received but is invalid and not to be handled, NOT is returned;

When a wrong command is received, ERR is returned.  
  
ASCII coding format:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Byte | 0 | 1 | 2 | 3 | 4 |
| Mask | ‘\*’ | ‘A’/‘E’/‘N’ | ‘C’/‘R’/‘O’ ‘ | K’/‘R’/‘T’ | ‘#’ |

* 1. Request State

Returned information:   
**Playing Status**（00：Prepare；01：Ready；02：ReadDisk；03：ReadDiskOK；

04：NoDisk；05：NoFile；06：FsError；07：Play；08：Pause；09：Stop；10：FastForward；11：Rewind；12：PlayError； 13：Uncmpt\_Err） + **Current Device Number** (1: USB-Driver, 2: SD card) + **Current Song Number**(1~999) + **Directory Number of Current Song** (000)+ **Current Playing Time**（hhmmss）.

Note:   
（1）If total number of songs in USB-driver and SD card exceeds 999, then the returned **Current Song Number** is 999.

（2）AU6850C does not support Folder Playing mode so **Directory Number of Current Song** is 000.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BYTE | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| MASK | \* | S | Status | | Device# | CurrentSong# | | | CurrentDirectory# | | | HH | | MM | | SS | | # |

（3）ASCII coding format:

* 1. Request Info  
     Returned information:   
     **Device Status**（00：no device；01：SD card；10：USB-driver；11：SD card+USB-driver） + **Current Device ‘s Directory Number** (256) + **Current Device’s File Number**(1~999) + **Current Playing Time**（hhmmss）+ **EQ Mode**（N: Normal; R: Rock; P: Pop; C: Class; T: Country）+ **File Type**（M：MP3）

Note:   
（1）If total number of songs in USB-driver and SD card exceeds 999, then the returned **Current Song Number** is 999.

（2）AU6850C does not support Folder Playing mode so **Directory Number of Current Song** is 000.

（3）ASCII coding format:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BYTE | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| MASK | \* | I | device | | CurrentDirectory# | | | CurrentSong# | | | HH | | MM | | SS | | EQ | M/W | # |

（4）Please refer to cmd.h for the Macro definition.

1. Example of Software Flow
   1. Step1  
      Initialize and config the host serial interface.
   2. Step2  
      Initialize can config the slave into command mode. While slave is in Command mode, slave will send “system start…” to host, and will report the system status. Before the host receives the above prompt information, slave does not need to send any info to host. The slave will recognize the device automatically but will not play and enter PAUSE state.
   3. Step3  
      send play command of 0x55900011ee, then the slave start playing songs. If more than one device are detected by slave, the default device is USB driver.
   4. Step4

If want to play 4th song, send command 0x5504005ea1.

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