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Arduino uno-lite+LC-2000(PA), The wireless light control

silver 2016/2/24

Everything done in house

1.summary

This document gives one example of how to use the ARDUINO-UNO-LITE, LC-2000(PA)-P2P to make a wireless light control.

2.material

- ARDUINO-UNO-LITE ;
- <u>LC-2000(PA)-P2P-SLAVE;</u>
 <u>LC-2000(PA)-P2P-MASTER;</u>
- <u>CB-LC-2000;</u>
- <u>UC-2102;</u>
- <u>LED;</u>
- LC-2000-DEBUGGER;
- THE SERIAL DEBUGGING ASSISTANT;



3.PCB board design

We need connected the LC-2000(PA)-SLAVE module and the ARDUINO UNO-LITE shield, The LC-2000(PA)-P2P shield and the CB-LC-2000 shield, and UC-2102 and CB-LC-2000. the Line connection order is vcc-vcc3.3v, RXD-RXD, TXD-TXD, DTR-DTR, GND-GND.



4.Detailed steps

- 1. Connect the LC-2000(PA)-P2P-SLAVE module and the CB-LC-2000 shield, then open the LC-2000-DEBUGGER, Set the address of the module, Work mode is set to full speed, Baud rate is set to 115200 bps. Remove the module and connects it to the ARDUINO UNO-LITE;
- Connect the LC-2000(PA)-P2P-MASTER module and the CB-LC-2000 shield, then open the LC-2000-DEBUGGER, Set the address of the module. Working mode. and Baud rate just same like the slave module;



- 3. Pairing the two RF module by Pushing the CFG long until pairing LED flashing;
- 4. Open the ARDUINO IDE, choose the port of UC-2102, copy the program to IDE, and download the program, The program can be wirelessly uploaded to the ARDUINO UNO-LITE;

| O UNO_LC_LITE_SLAVE Arduino 1.6.7 | |
|---|---------------------------------------|
| File Edit Sketch Tools Help | |
| | <u>@</u> |
| UNO_LC_LITE_SLAVE | |
| 1 #define PIN_LED 5 | <u> </u> |
| 2 | |
| 3 unsigned char state; | = |
| 4 | |
| 5 | |
| 6 bool g_PktFristFlag = false; | |
| <pre>/ bool g_rktRecvFlag = Talse; 8 cher g RecvBuff[30];</pre> | |
| 9 unsigned int g RecyCount: | |
| 10 | |
| 11 void setup() { | |
| 12 // put your setup code here, to run once: | |
| <pre>13 pinMode(PIN_LED, OUTPUT);</pre> | |
| <pre>14 digitalWrite(PIN_LED, LOW);</pre> | |
| 15 | |
| 16 Serial. begin (115200); | |
| | - |
| Done uploading. | |
| | * |
| avrdude done. Thank you. | |
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| 11 | Arduino/Genuino Uno on COM6 |

- 5. Open the serial debugging assistant, choose the port of UC-2102, set the Baud rate to 115200 bps, choose "send new";
- 6. Send data "SET_LED";

| SSCOM3.2 (Author: NieXiaoMeng . http://www.mcu51.com, Email: | | | 23 |
|--|--|-------------------------------------|--------------------|
| | | | ~ |
| OpenFile FileNm SendFile SaveData C ComNum COM3 V @ CloseCom Help WWW.MCU51. | lear COM | | HexData EXT |
| BaudRa 115200 V DTR RTS (1D0CTYPE HTML PUBLIC "- GTML>GEAD>CITILE>Not F StopBi 1 Send eve 1000 ms/Time Verify None Data input: SEND ML>GEAD>CITILE>Not Four ML>GEAD>CITILE>Not Four ML>GEAD>CITILE>NOT ML>GEAD>CIT | //W3C/ ound <br undndd <td>/DTD TITL ITLE TLE> LE></td> <td>HTML 4. E> ></td> | /DTD TITL ITLE TLE> LE> | HTML 4. E> > |
| www.mcu51.cor S:0 R:0 COM3 opened 115200bp; CT | S=1 D | SR= | 1 RL' // |

7. Now you can control the LED light;

5. The program

#define PIN_LED 5

unsigned char state;

```
bool g_PktFristFlag = false;
bool g_PktRecvFlag = false;
char g_RecvBuff[30];
unsigned int g_RecvCount;
void setup() {
// put your setup code here, to run once:
pinMode( PIN_LED, OUTPUT );
digitalWrite( PIN_LED, LOW );
Serial.begin(115200);
}
void loop() {
// put your main code here, to run repeatedly:
if ( g_PktRecvFlag ) {
g_PktRecvFlag = false;
g_PktFristFlag = false;
ReadCommand();
g_RecvCount = 0;
}
}
void serialEvent() {
while ( Serial.available() ) {
char inChar = Serial.read();
if ( inChar == '\r' ) {
g_PktFristFlag = true;
}
else if ( inChar == '\n' ) {
if ( g_PktFristFlag ) {
  g_RecvBuff[g_RecvCount] = '\0';
g_PktRecvFlag = true;
}
}
else {
g_RecvBuff[g_RecvCount++] = inChar;
}
}
}
void ReadCommand() {
char *pString = (char *)&g_RecvBuff[0];
if ( 0 == strncmp( pString, "SET_LED", 7 ) ) {
state = ~state;
if ( state ) {
digitalWrite( PIN_LED, HIGH);
}
else {
digitalWrite( PIN_LED, LOW);
}
}
}
```