

	Default baud rate of <b>LED Display</b> is 115200			<pre>void Write_AT_Command(char *string) {   Serial.print(string);   while (Serial.read() != 'E') {}   delay(2); }</pre>
Code	Function	Instruction of AT Command mode	API for Arduino	Example of using Write_AT_Command() subroutine above
N/A	Sent a image(192X64 bitmap) to LED Display (An array consist of 1536 bytes bitmap information)	1. A "for" loop to send 1536 bytes user define display information 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>for (i = 0 ; i &lt; 1536; i++) {   Serial.write(User_define_array[i]); } while (Serial.read() != 'E') {} delay(2);</pre>	
0x80	Write a 5X7 Character	1. AT80=(line,column,Character) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT80=(0,0,A)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT80=(0,0,A)")
0x81	Write a 8X8 String	1. AT81=(line,column,String) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT81=(0,0,ABCD1234)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT81=(0,0,ABCD1234)")
0x82	Write a 8X16 Character	1. AT82=(line,column,Character) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT82=(0,0,A)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT82=(0,0,A)")
0x83	Write a 8X16 String	1. AT83=(line,column,String) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT83=(0,0,ABCD1234)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT83=(0,0,ABCD1234)")
0x84	Dsplay a 8X8 pattern	1. AT84=(X position,Y position,pattern ID) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT84=(16,32,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT84=(16,32,1)")
0x85	Dsplay a 8X16 pattern	1. AT85=(X position,Y position,pattern ID) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT85=(16,32,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT85=(16,32,1)")
0x86	Dsplay a 16X16 pattern	1. AT86=(X position,Y position,pattern ID) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT86=(16,32,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT86=(16,32,1)")
0x87	Dsplay a 32X32 pattern	1. AT87=(X position,Y position,pattern ID) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT87=(16,32,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT87=(16,32,1)")
0x90	Draw a line	1. AT90=(X0 position,Y0 position,X1 position,Y1 position,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT90=(0,0,127,63,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT90=(0,0,127,63,1)")
0x91	Draw a Rectangle	1. AT91=(X0 position,Y0 position,X1 position,Y1 position,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT91=(10,10,100,49,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT91=(10,10,100,49,1)")
0x92	Draw a filled Rectangle	1. AT92=(X0 position,Y0 position,X1 position,Y1 position,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT92=(10,10,100,49,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT92=(10,10,100,49,1)")
0x93	Draw a Square	1. AT93=(X position,Y position,Width,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT93=(8,10,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT93=(8,10,30,1)")
0x94	Draw a Circle	1. AT94=(X position,Y position,Radius,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT94(64,32,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT94(64,32,30,1)")
0x95	Draw a filled Circle	1. AT95=(X position,Y position,Radius,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT95=(64,32,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT95=(64,32,30,1)")
0x96	Draw a tip upward Triangle	1. AT96=(X position,Y position,Height,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT96=(64,10,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT96=(64,10,30,1)")
0x97	Draw a filled tip upward Triangle	1. AT97=(X position,Y position,Height,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT97=(64,10,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT97=(64,10,30,1)")
0x98	Draw a tip downward Triangle	1. AT98=(X position,Y position,Height,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT98=(64,50,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT98=(64,50,30,1)")
0x99	Draw a filled tip downward Triangle	1. AT99=(X position,Y position,Height,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT99=(64,50,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT99=(64,50,30,1)")
0x9a	Draw a tip leftward Triangle	1. AT9a=(X position,Y position,Width,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT9a=(16,32,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT9a=(16,32,30,1)")
0x9b	Draw a filled tip leftward Triangle	1. AT9b=(X position,Y position,Width,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT9b=(16,32,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT9b=(16,32,30,1)")
0x9c	Draw a tip rightward Triangle	1. AT9c=(X position,Y position,Width,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT9c=(120,32,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT9c=(120,32,30,1)")
0x9d	Draw a filled tip rightward Triangle	1. AT9d=(X position,Y position,Width,0 or 1) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT9d=(120,32,30,1)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT9d=(120,32,30,1)")
0x9e	Set a pixel for positive display (show pixel)	1. AT9e=(X position,Y position) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT9e=(120,32)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT9e=(120,32)")
0x9f	Set a pixel for negative display (clear pixel)	1. AT9f=(X position,Y position) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("AT9f=(120,32)"); while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("AT9f=(120,32)")
0xa0	Display image row by row Up Ward	1. ATa0=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("ATa0=(20)") while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("ATa0=(20)")
0xa1	Display image row by row Down Ward	1. ATa1=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	<pre>Serial.print("ATa1=(20)") while (Serial.read() != 'E') {} delay(2);</pre>	Write_AT_Command("ATa1=(20)")

0xa2	Display image column by column Left Ward	1. ATa2=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATa2=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATa2=(20)")
0xa3	Display image column by column Right Ward	1. ATa3=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATa3=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATa3=(20)")
0xa4	Erase image row by row Up Ward	1. ATa4=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATa4=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATa4=(20)")
0xa5	Erase image row by row Down Ward	1. ATa5=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATa5=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATa5=(20)")
0xa6	Erase image column by column Left Ward	1. ATa6=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATa6=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATa6=(20)")
0xa7	Erase image column by column Right Ward	1. ATa7=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATa7=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATa7=(20)")
0xa8	Display image Inside Out	1. ATa8=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATa8=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATa8=(20)")
0xa9	Display image Outside In	1. ATa9=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATa9=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATa9=(20)")
0xaa	Erase image Inside Out	1. ATaa=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATaa=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATaa=(20)")
0xab	Erase image Outside In	1. ATab=(Speed in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATab=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATab=(20)")
0xd0	Clear display	1. ATd0=() 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd0=()"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd0=()")
0xd1	Show the data in the display memory	1. ATd1=() 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd1=()"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd1=()")
0xd2	Scroll the whole display upward	1. ATd2=(shif time in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd2=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd2=(20)")
0xd3	Scroll the whole display downward	1. ATd3=(shif time in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd3=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd3=(20)")
0xd4	Scroll the whole display leftward	1. ATd4=(shif time in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd4=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd4=(20)")
0xd5	Scroll the whole display rightward	1. ATd5=(shif time in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd5=(20)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd5=(20)")
0xd6	Scroll the section display upward	1. ATd6=(X0 position,Y0 position,X1 position,Y1 position, shif time in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd6=(10,16,120,50,1)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd6=(10,16,120,50,1)")
0xd7	Scroll the section display downward	1. ATd7=(X0 position,Y0 position,X1 position,Y1 position, shif time in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd7=(10,16,120,50,1)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd7=(10,16,120,50,1)")
0xd8	Scroll the section display leftward	1. ATd8=(X0 position,Y0 position,X1 position,Y1 position, shif time in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd8=(10,16,120,50,1)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd8=(10,16,120,50,1)")
0xd9	Scroll the section display rightward	1. ATd9=(X0 position,Y0 position,X1 position,Y1 position, shif time in ms) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATd9=(10,16,120,50,1)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATd9=(10,16,120,50,1)")
0xda	Display quarter of display memory (Available for Mode0, 1, and 2 only)	1. ATda=(Quadrant 0-3) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATda=(1)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATda=(1)")
0xf0	Turn display Off	1. ATf0=() 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATf0=()"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATf0=()")
0xf1	Turn display On	1. ATf1=() 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATf1=()"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATf1=()")
0xf2	Set the brightness of the LED Display	1. ATT2=(levele of brightness 0-11) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATT2=(5)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATT2=(5)")
0xf3	Inverse image	1. ATf3=() 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATf3=()"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATf3=()")
0xf6	Change Instruction mode (0 for Hex Coammand, 1 for AT Command)	1. ATf6=(0) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATf6=(0)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATf6=(0)")

0xf7	Change Display Mode	1. ATf7=(Display Mode) 2. Wait until receive a module available byte ('E') from LED Display 3. Wait 2ms	Serial.print("ATf7=(0)"); while (Serial.read() != 'E') {} delay(2);	Write_AT_Command("ATf7=(0)")
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