We have an air conditioner system that heats or cools the room temperature. We send commands to the system through the control panel with serial communication. The serial packet size is variable and described below.

Byte[0] is header and always is 0x3a;

Byte[1] is the command length witch starts from byte[2] to the CheckSum Byte number, for example, if the checksum byte is Byte[6], the Byte[1] (command length) is equal to 5;

Byte[2] is a command byte and could be as follows:

Byte[2] = 0x22: this command means to power off the system. (command length is 2 in this command format)

Byte[2]=0x33: this command means to power on the system. (command length is 2 in this command format)

Byte[2] = 0x44: setting temperature to Byte[3] Value. (command length is 3 in this command format)

Byte[2] = 0x55:setting sleep timer to Byte[4] + Byte[3]<<8 value.(command length is 4 in this command format)

Byte[Command Lenth + 1] = checksum  
CheckSum is the least significant Byte of the Sum of other bytes that check if the noise affects the serial data or not.

Checksum = (Byte[1] + Byte[2] + … + Byte[Command Lenth ] ) &0xff;

At the receiving point, the checksum must be calculated and be equal to the receiving checksum value, otherwise, the packet is invalid and no action is taken on the packet.

Please write the receiver packet decoding. It should check whether the packet is valid or not and get the data from the packet if it’s valid. Set the temperature and sleep timer value to the Defined Temperature and SleepTimer value. Use the PowerOff() and PowerOn() functions to power off/on the system.

int Temperature = 0;

Int SleepTimer = 0;

Void PowerOff();

Void PowerOn();

Write your code in the notepad++;