Introduction



The ELET114A Bluetooth module follows the BT2.1+EDR/3.0/4.0 Bluetooth profile and supports SPP, HID and so on. This module integrates the MCU and Bluetooth chip, thus boasts being high integrated, low consumption, and excellent Bluetooth radio frequency.

Features

Bluetooth Specification: V2.1+ EDR, BT3.0, BT4.0 (BLE) Operating Frequency Band: 2.4 -2.48GHz unlicensed ISM band Main Digital Interface: UART RX Sensitivity: -88dBm Operating Voltage: +5V 20mA Operating Temperature: -30 ~ +85 °C Dimensions: 50 x 24 x 2mm

Pin Descriptions

VCC: Positive pole of the power source GND: Ground TXD: Serial interface, transmitting terminal RXD: Serial interface, receiving terminal

Using SunFounder Uno

Step 1: Compile and upload the code before building the circuit.

```
#include <SoftwareSerial.h>
SoftwareSerial mySerial(7, 8); // RX, TX
// Connect HM10
                   Arduino Uno
11
      TXD
                  Pin 8
11
      RXD
                  Pin 7
void setup() {
 Serial.begin(115200);
 // If the baudrate of the HM-10 module has been updated,
 // you may need to change 9600 by another value
 // Once you have found the correct baudrate,
 // you can update it using AT+BAUDx command
```

Step 2: Connect the circuit.

Bluetooth 4.0	Uno Board
VCC	5V
GND	GND
TXD	Pin 8
RXD	Pin 7



Using Android

If you are using an Android phone, please follow the steps below:

Step 3: You need to download a Bluetooth 4.0 debugging assistant onto the mobile phone to connect it with the Bluetooth 4.0 module. We've provided the tool in Android. Just download BlueTooth.zip on your smart phone and decompress. Then you can see a file BlueTooth. Enable Bluetooth on your phone and install it.



Step 4: Open the installed app. It will directly go to the Bluetooth pairing interface. So first pair your phone and the module.

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Step 5: After the pairing is done successfully, you'll be redirected back to the app homepage (Fig 1). Then tap Select Device at the top right corner. On the page, find the Bluetooth and hit it (Fig 2). Tap Connect. When Connect changes to Connected, it indicates that the pairing is good. At the same time the LED indicator on the module will change from blinking to constant lighting.

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Fig 1

Fig 2

Fig3

Step 6: Tap serial monitor in Arduino IDE, and type in "Hello!", then you will receive it in the mobile phone. Similarly, SunFounder send by the phone will appear in the serial monitor.

15:31 0.07K/s \$ 영 후 네 네 40% Screen1	💿 COM10 (Arduino/Genuino Uno)	- • ×
BlueTooth	hello!	Send
Connected 00:1B:10:30:09:AD FI FT SPP 3009AD hello! Receive	SunFounder	
Clear Send Send		15200
	Autoscroll No line endin	g 🔻 115200 baud

Use iOS

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If you are using an iPhone or MacBook, please follow the steps below (iPhone as an example): Step 3: Go to the App store, search for the application – LightBlue and install. Step 4: Click/Hit Settings -> Bluetooth, enable the Bluetooth and then open the LightBlue.



Step 5: If the Bluetooth is connected successfully, you will see ELET_BLE_XXXXXX as shown in Fig 4. Hit it to connect, then it redirects to the interface in Fig 5. Read and Write Page are separated.

•••••China Mobile 4G 15:52 (e) (a) $3 = 68\%$	•••••China Mobile 4G 15:55 @ 🕉 68% 🔳
Sort LightBlue Explorer Filter	Kernel Clone
Peripherals Nearby	
ILET_BLE_3009AD	ELET_BLE_3009AD UUID: 76C7DCE1-8FAD-130D-3CFD- C77570EB1411
Virtual Peripherals	Connected
Create Virtual Peripheral >	ADVERTISEMENT DATA Show
	UUID: FFE1
	OxFFE2 Properties: Notify Read >
	OxFFE3 Write >
Info Punch Through Log	Info Punch Through Log
Fig 4	Fig 5

Step 6: Read the message Tap 0xFFE2 to enter into the interface in Fig 6, tap Hex in the top right corner to set the character type. Among the types (Fig 7), choose UTF-8 String.

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•••••China Mobile 4G 15:55 💿 🕏 68% 💶 🕨	••••China Mobile 4G 15:56
<pre>A Back OxFFE2 Hex</pre>	Cancel Characteristic Format
ELET_BLE_3009AD OXFFE2 UUID: FFE2 Connected	elet_ble_3009AD No user description uuid: ffe2
NOTIFIED VALUES	0×123456 Hex
Listen for notifications	0 04432126 Octal
DESCRIPTORS	Ob000100100011010001010110
O Client Characteristic Configuration PROPERTIES	"4V" UTF-8 String
Notify	Byte Count: ∞+ Endianness: Big Little
Info Punch Through Log	Info Punch Through Log

Fig 6

Fig 7₽

Hit Listen for notifications to read the value. Open Serial Monitor, select baud rate 115200, and send "Hello!", then you will receive it in your iphone.

💿 COM10 (Arduino/Genuino Uno)	••••••China Mobile 4G 15:57
Hello! Send	Back 0xFFE2 UTF-8
	ELET_BLE_3009AD
	0xFFE2
	UUID: FFE2
	Connected
	NOTIFIED VALUES
=	Stop listening
	"Hello!"
	10.01.02.000
	DESCRIPTORS
	Client Characteristic Configuration
115200	PROPERTIES
	Notify
▼ Autoscroll No line ending ▼ 115200 baud	Info Punch Through Log

Step 7: Write the message

Tap 0xFFE3, and then tap Hex in the top right corner to set the character type. Among the types (Fig 9), choose UTF-8 String. Hit Write New Value to write a message.

••••• China Mobile 4G 16:44	•••••China Mobile 4G 15:58 💿 🕏 🕉 68% 💼	•••••China Mobile 4G 15:58 💿 🕏 💲 68% 🔳 🖿	
Kerk Back OxFFE3 Hex	Cancel Characteristic Format	ConstraintOxFFE3 UTF-8	
ELET_BLE_3009AD	ELET_BLE_3009AD	ELET_BLE_3009AD	
OXFFE3 UUID: FFE3 Connected	No user description	OXFFE3 UUID: FFE3 Connected	
WRITTEN VALUES	0×123456 _{Hex}	WRITTEN VALUES	
Write new value	0 04432126 Octal	Write new value	
DESCRIPTORS	05000100100011010001010110 Binary	DESCRIPTORS	
PROPERTIES	"4V"	PROPERTIES	
Write Without Response	UTF-8 String	Write Without Response	
Write	Bvte Count: ∞+	Write	
	Endianness: Big Little		
Info Dunch Through Log	Info OPUNCH Through Log	Info Dunch Through Log	
Fig 8	Fig 9	Fig 10₊	

Then you can see the message sent from the phone in Serial Monitor.

••••••China Mobile 4G 15:58 ④ ♥ \$ 68% ■□ OxFFE3 Edit Value	💿 COM10 (Arduino/Genuino Uno)	
LITE-8 String		Send
SunFounder	SunFounder	Â
		=
is I to		
qwertyuiop		
asdfghjkl		115200
☆ z x c v b n m ⊗		115200
123 U space Done	V Autoscroll No line	ending 👻 115200 baud

Testing by AT Command

Step 1. Build the circuit.

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Bluetooth Module	FTDI
VCC	VCC
GND	GND
TXD	TXD
RXD	RXD



Step 2. Set parameters.

Run the serial debugging tool sscom32. Set the parameters first. 1) Run Open Com to check the COM port. Select the corresponding COM port as shown below.

	chor. Michaolmen	g . http://w	ww.mcu51.com	, Email:		
						*
			The server film	1		*
OpenFile FileNm	-		SendFile Sa	veData	Clear	HexData
ComNum COM3 -	CloseCom	<u>Help</u>	WWW.	ИСU51	.СОМ	EXT
BaudRa COM3		RTS	【升级为SSCOM5 PCB打样那家强争	.12版】新 PCB打样就	版本USB误排 舭找嘉立创!	炭不死机! 【官网】
DataBi 8 🔻	Send eve 100	SondNow	如何支持SSCOM	「「「「「「「」」」	「丁兼职素が)创业务员 可把专家 (4
Voriful None	Data input:	SEND	1221年前一个尾考 注册请加助理梁	アルのほう 雁婷的QQ:	800058315 (「価値多加」 「不懂技术」
FlowCon None V						
/ww.mcu51.cor S:0	, R:0	CON	M3 opened 115	200bp: C	TS=0 DSR:	=0 RL' //
2) Select the correct l	aud rata. Hara wa	coloct 115200	has as shown be	low		
2) Select the confect i	Jaud fale. Here we	select 115200	pps as shown be	IOW.		
III. cocomo a /A.	de la NIL-MIL-MARK	- Lu- //-		Trans II.		X
SSCOM3.2 (Au	thor: NieXiaoMen	ig . http://w	ww.mcu51.com	, Email:		X
SSCOM3.2 (Au	thor: NieXiaoMen	ng . http://w	ww.mcu51.com	, Email:		X
KSCOM3.2 (Au	thor: NieXiaoMen	ng . http://w	ww.mcu51.com	, Email:		×
ile SSCOM3.2 (Au	thor: NieXiaoMen	ng . http://w	ww.mcu51.com	, Email:		×
KSCOM3.2 (Au	thor: NieXiaoMen	ng . http://w	ww.mcu51.com	, Email:		×
KSCOM3.2 (Au	thor: NieXiaoMen	ng . http://w	ww.mcu51.com	, Email:		×
KSCOM3.2 (Au	thor: NieXiaoMen	ng . http://w	ww.mcu51.com	, Email:		×
SSCOM3.2 (Au	thor: NieXiaoMen	ng . http://w	ww.mcu51.com	, Email:		*
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OpenFile FileNm	thor: NieXiaoMen	ng . http://w	ww.mcu51.com	, Email:	Clear	X
OpenFile FileNm ComNum COM3 -	thor: NieXiaoMen	Ng. http://w	ww.mcu51.com	aveData	Clear Clear	X A HexData EXT
OpenFile FileNm ComNum COM3 -	thor: NieXiaoMen	ng. http://w	ww.mcu51.com SendFile Sa WWW.	aveData <i>MCU51</i> 5.12版] 家		¥ HexData EXT 拔不死机!
OpenFile FileNm ComNum COM3 BaudRa 115200 DataBi 14400	thor: NieXiaoMen	ng.http://w	ww.mcu51.com SendFile Sa WWW. 【升级为SSCOMS PCB打样那家语 加何支持SSCOMS	aveData . 12版】第 作者?作者		X HexData EXT 技不死机! 【官网】
OpenFile FileNm ComNum COM3 BaudRa 115200 DataBi 14400 StopBi 19200 28400	thor: NieXiaoMen CloseCom DTR Send eve 100 SendHEX	ng.http://w Help RTS D0 ms/Time SendNew	ww.mcu51.com SendFile Sa WWWW. 【升级为SSCOMS PCB打样那家强 如何支持SSCOMS 您注册一个尾号	, Email: aveData MCU51 5.12版】第 PCB打样該 作者?作者 、 为F的裏う	Clear 「 .COM 「版本VSB误 就找嘉立创 丁丁兼职嘉 示创ID即可」。	X HexData EXT 访创小务员可拥有多个
OpenFile FileNm ComNum COM3 V BaudRa 115200 V DataBi 14400 StopBi 38400 Verify 56000	thor: NieXiaoMen CloseCom DTR Send eve 100 SendHEX Data input:	ng.http://w Kelp RTS Doms/Time SendNew SEND	ww.mcu51.com SendFile Sa WWW. 【升级为SSCOM PCB打样那家强 如何支持SSCOM 您注册一个属号 注册请加助理粱	aveData AveData	Clear (Clear) (Clear) (COM) (版本USB误 1 1 1 1 1 1 1 1 1 1 1 1 1	 X HexData EXT 技不死机! (不懂技术
OpenFile FileNm ComNum COM3 BaudRa 115200 DataBi 14400 StopBi 19200 StopBi 38400 Verify 56000 FlowCor 57600	thor: NieXiaoMen CloseCom DTR Send eve 100 SendHEX Data input:	ng.http://w Melp RTS SendNew SEND	ww.mcu51.com SendFile Sa WWWW. 【升级为SSCOM PCB打样那家强 如何支持SSCOM 您注册一个尾号 注册请加助押粱	aveData AveData 5.12版】新 PCB+T样的 定者?作者 苏F的嘉立 能解编的QQ	Clear Clear 「 た で が 版本 USB 误 満 北 哀 う 创 ID 即 同 「 こ こ の M 本 USB 误 : : : : : : : : : : : : : : :	X HexData EXT 技不死机! 引向州将员 可拥有多个 (不懂技术

3) Before sending the command, tick the SendNew checkbox, then input "AT+MAC?" below Data input. If the Bluetooth module works normally, it will return the module's address as shown below.

SSCOM3.2 (Author: NieXiaoMeng . http://ww	vw.mcu51.com, Email: 🗖 🗖 🔀
+MAC:001B10200BBD	A
	See Wills See Data Classe C VerData
	Sendrile Savebata Clear nexbata
ComNum COM3 💌 🧐 CloseCom Help	WWW.MCUSI.COM
BaudRa 115200 - DTR RTS	【升级为SSCOM5.12版】新版本VSB误拔不死机! PCB打样那家品?PCB打样就找真立创,【宫网】
DataBi 8 💌 🗆 Send eve 1000 ms/Time	如何支持SSCOM作者?作者丁丁兼职嘉立创业务员
StopBi 1 V SendHEX SendNew	您注册——个尾号为B的嘉立创ID即可,可拥有多个 注册违加时理》;废值的00-800058315 (不懂技术)
FlowCos None V AT+MAC?	/+ III III / IIII / III / IIII / III
ww.mcu51.cor S:9 R:21 CON	13 opened 115200bp: CTS=0 DSR=0 RL

4) For more directives, please check the Datasheet of ELET114A.