Manual

Specifications	
Microcontroller	ATmega2560
IC Wi-Fi	ESP8266
USB-TTL converter	CH340G
Power Out	5V-800mA
Power IN. USB	5V (500mA max.)
Power IN. VIN/DC Jack	9-24V
Power Consumption	5V 800mA
Logic Level	5V
Wifi	Wi-Fi 802.11 b/g/n 2.4 GHz
USB	Micro USB
Clock Frequency	16MHz
Operating Supply Voltage	5V
Digital I/O	54
Analog I/O	16
Memory Size	256kb
Data RAM Type/Size	8Kb
Data ROM Type/Size	4Kb
Interface Type	serial\OTA
Operating temperature	-40 C ° /+125 C °
Length $ imes$ Width	53.361×101.86mm
antenna	Buil-in\external antenna

It is a customized version of the classic ARDUINO MEGA R3 board. Full integration of Atmel ATmega2560 microcontroller and ESP8266 Wi-Fi IC, with 32 Mb (megabits) of flash memory, and CH340G USB-TTL converter on a single board! All components can be set up to work together or

independently.

Operating mode is selected by means of DIP switches on-board:



Switch status and mode selection:

	1	2	3	4	5	6	7	8
CH340 connect to ESP8266 (upload sketch)	OFF	OFF	OFF	OFF	ON	ON	ON	NoUSE
CH340 connect to ESP8266 (connect)	OFF	OFF	OFF	OFF	ON	ON	OFF	NoUSE
CH340 connect to ATmega2560 (upload sketch)	OFF	OFF	ON	ON	OFF	OFF	OFF	NoUSE
CH340 connect to Mega2560 COM3 connect to ESP8266	ON	ON	ON	ON	OFF	OFF	OFF	NoUSE
Mega2560+ESP8266	ON	ON	OFF	OFF	OFF	OFF	OFF	NoUSE
All modules work independent	OFF	NoUSE						

Also, have switch for change of connecting port between ATmega2560 and ESP8266



After choosing the mode of the board can proceed to set up the IDE

It is important that when the ESP8266 module is programming, it is necessary to press the button "Mode"



To begin open the Arduino IDE programming environment and go to settings



Then in the window that appears in the row, Additional Boards Manager URLs (marked in red) insert <u>http://arduino.esp8266.com/stable/package_esp8266com_index.json</u> link for installation in Arduino IDE additional scripts that would work with the modules ESP8266 and click OK

Preferences			×
Sketchbook location:			
C: \Users\admin\Documents\Arduino			Browse
Editor language: English (English) Editor font size: 12 Show verbose output during: compilation upload Compiler warnings: None Display line numbers Enable Code Folding Verify code after upload Use external editor	•	(requires restart of Arduino)	
Check for updates on startup			
Update sketch files to new extension on save (.pde -> .ino) Save when verifying or uploading			
Additional Boards Manager URLs: More preferences can be edited directly in the file C: Users\admin\AppData\Roaming\Arduno15\preferences.txt			
(edit only when Arduino is not running)			OK Cancel

Then go to the Tools> Board> Boards Manager

💿 sketch_mar09a A	irduino 1.6.5		
File Edit Sketch To	ols Help		
sketch_mar09	Auto Format Ctrl+T Archive Sketch Fix Encoding & Reload Serial Monitor Ctrl+Shift+M		
	Board: "Arduino Yún"		Boards Manager
3	Port		Arduino AVR Boards
<pre>void loop() { // put your }</pre>	Programmer: "USBasp" Burn Bootloader	•	Arduino Yún Arduino/Genuino Uno
}			Arduno Duemianove or Diecimila
			Arduino Kano Arduino Kenuino Mena or Mena 2560
			Arduino Mega ADK
			Arduino Leonardo
			Arduino/Genuino Micro
			Arduino Esplora
			Arduino Mini
			Arduino Ethernet
			Arduino Fio
			Arduino BT
			LilyPad Arduino USB
			LilyPad Arduino
			Arduino Pro or Pro Mini
			Arduino NG or older
9			Arduino Robot Control
			Arduino Robot Motor
			Arduino Gemma

In the window that appears, scroll through the list down to the script esp8266 by ESP8266 Community and click.

😳 Boards Manager									1	×
Type All	•	Filter your search	8							
Boards included in Arduino 101, More info	n this p	ackage:								•
AMEL-Tech Board Boards included i SmartEverything Online help More Info	is by Al n this p Fox.	MEL Technology ackage:								
esp8266 by ESP8 Boards included i Generic ESP8266 Adafruit HUZZAH D1 mini, ESPino I Online help More info	Module ESP826 ESP-12	mmunity ackage: , Olimex MOD-W 6 (ESP-12), ESPino Module), ESPino	IFI-ESP8266(- Isso Lite 1.0, (WROOM-02	DEV), Nodel ESPresso Lit Module), Wi	4CU 0.9 (ESP e 2.0, SparkF fInfo, ESPDui	-12 Module un Thing, S no.), NodeMCU iweetPea ESI	1.0 (ESP-12 D-210, WeMo	E Module), os D1, WeMo	•
							2.1.0	•	Instal	
									d	ose

In the lower right corner will be able to select the version of the software, select the version 2.1.0 (the newest) and click the Install button

Boards Manager		×
Type Al +	Iter your search	
Inter Curve Boards by Inter Boards included in this part Arduino/Genuino 101. More info	er ckage:	*
AMEL-Tech Boards by AMI Boards included in this part SmartEverything Fox. Online_help More_info	EL Technology ckaga:	
esp8266 by ESP8266 Com Boards included in this pai Generic ESP8266 Module. Adafruit HUZZAH ESP8266 D1 mini, ESPino (ESP-12 M Online help More info	munity ckage: Olimex MOD-WIFI-ESP8266(-DEV). NodeMCU 0.9 (ESP-12 Module). NodeMCU 1.0 (ESP-12E Module). (ESP-12), ESPresso Lite 1.0, ESPresso Lite 2.0, SparkFun Thing, SweetPea ESP-210, WeMos D1, WeMos Module). ESPino (WROOM-02 Module). WifInfo, ESPDuino.	
	Instaling	
	Installing tools (2/3)	4

After installation, close the window and go to Tools> Board and see the list of available devices on the chip programming ESP8266



Next, you need to select the card as shown in the picture (Generic ESP8266 module)

Debug Level: "None"	>	
Reset Method: "ck"	>	
Upload Speed: "115200"		115200
Port	3	9600 h
Get Board Info		57600
Programmer "AV/RISP mkll"		256000
Purp Pootloader		512000
Buill Bootloader		921600

Select the upload speed - 115200

Tools	Help	
	Auto Format	Ctrl+T
	Archive Sketch	
	Fix Encoding & Reload	
	Serial Monitor	Ctrl+Shift+M
1	Serial Plotter	Ctrl+Shift+L
	ESP8266 Sketch Data Upload	N
	WiFi101 Firmware Updater	43
	Board: "Generic ESP8266 Module"	>
1	Flash Mode: "DIO"	>
	Flash Frequency: "40MHz"	>
	CPU Frequency: "80 MHz"	>
)	Flash Size: "512K (64K SPIFFS)"	>
1	Debug port: "Disabled"	>
	Debug <mark>Level: "Non</mark> e"	>
Ì	Reset Method: "ck"	>
į	Upload Speed: "115200"	>
1	Port	>
1	Get Board Info	

```
Serial3.begin(115200);
pinMode(13,OUTPUT);
delay(500);
Serial3.println("AT+CIPMUX=1");
delay(2000);
Serial3.println("AT+CIPSERVER=1,5000");
delay(2000);
Serial3.println("AT+CIPSTO=3600");
delay(2000);
```

```
}
```

```
void loop()
{
```

```
while(Serial3.available())
{
char Rdata;
Rdata=Serial3.read();
if(Rdata=='A'|Rdata=='a')
```

```
{
   digitalWrite(13,HIGH);
   delay(50);
  }
  else if(Rdata=='B'|Rdata=='b')
  {
   digitalWrite(13,LOW);
   delay(10);
   digitalWrite(13,HIGH);
   delay(10);
   digitalWrite(13,LOW);
  }
  else
  {
   digitalWrite(13,LOW);
  }
 }
}
```