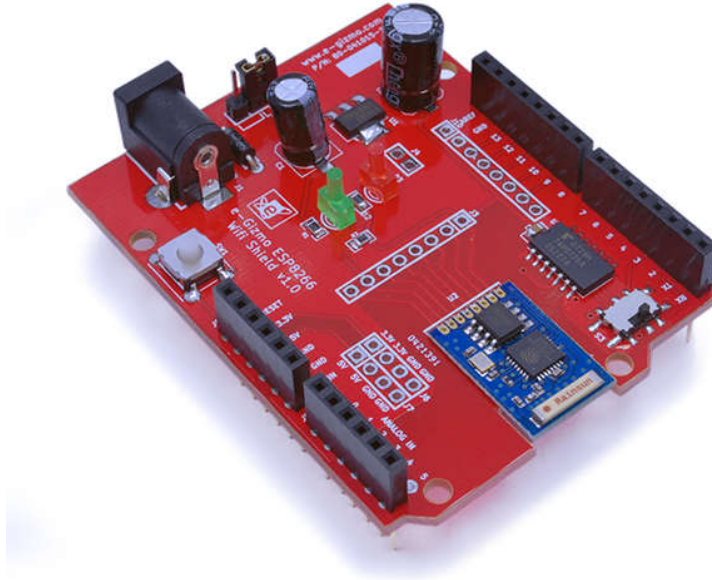


ESP8266 WiFi Shield

Technical Manual Rev 1r0



e-Gizmo ESP8266 Wifi Shield is made to easily use the ESP8266 wifi module interface with Arduino/Gizduino Microcontroller boards. No need to wire up or just put a lead to its mini pinouts of ESP. Connect/attached the Wifi shield to gizduino and you will see the Wifi connection on your laptop or mobile devices. ESP8266 is low-cost WiFi module suitable for adding WiFi functionality to adds a WiFi function to your microcontroller via UART serial connection, it can also be programmed to act as a standalone WiFi connection device, which requires a power supply.

FEATURES:

- 802.11 b/g/n protocol
- Wi-Fi Direct (P2P), soft-AP
- Integrated TCP/IP protocol stack
- Compatible in all gizduino boards.

GENERAL SPECIFICATIONS:

Input Supply: 3.3V (module)

External Supply: 5 to 7Vdc

Internal Source: +5V (MCU)

Part Number: ESP8266 Wifi Module

PCB Dimensions: 66mm x53 mm

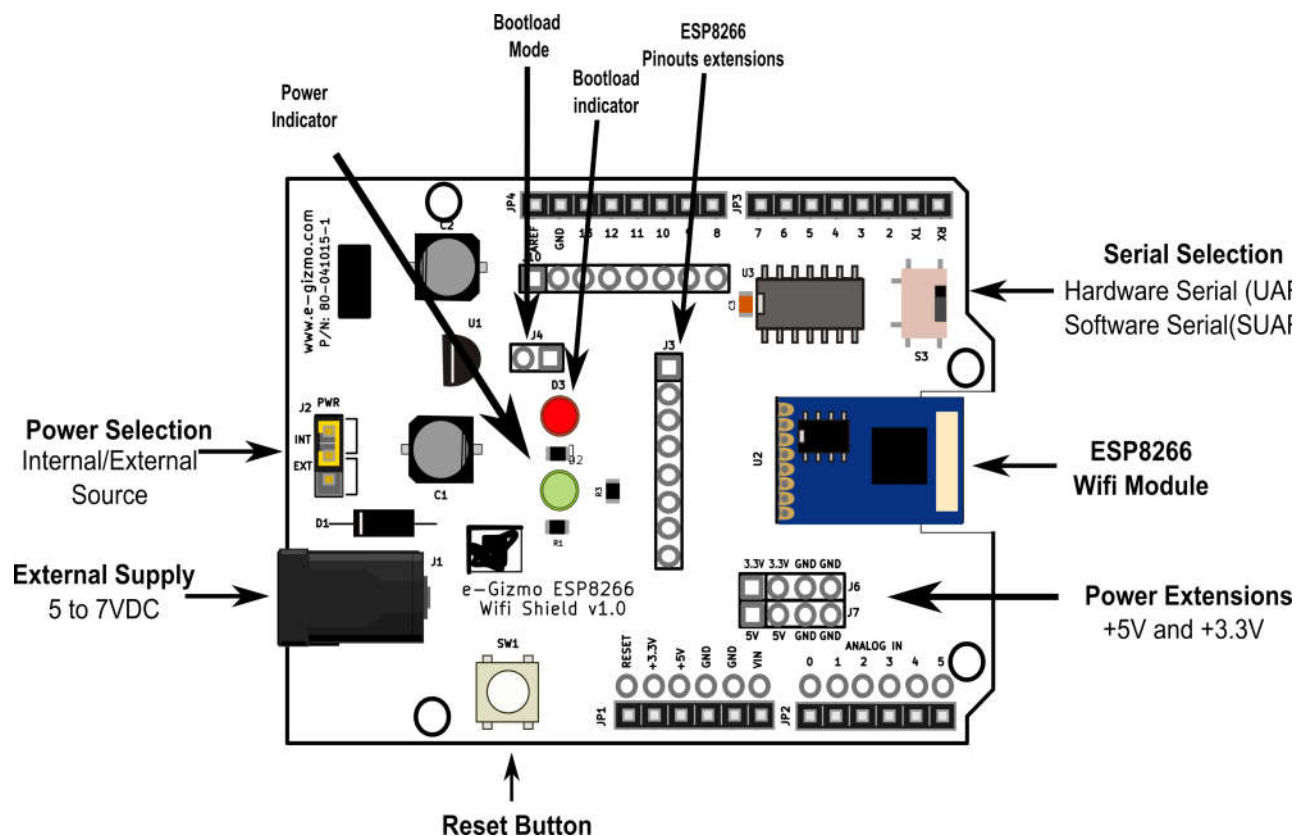


Figure 1. Major Parts presentation of e-Gizmo ESP8266 WIFI Shield v1.0

The WiFi module requires a 3.3V power supply

*Note: do not connect the wifi module to the 5V, the wifi module does not have a 5V tolerant inputs.

Table 1. Power Descriptions.

Pin Reference	Descriptions
J1	External Supply (5-7Vdc)
J2	Power Selection (External/Internal Source) Internal Source: MCU(+5V) Power

Table 2. LED Descriptions.

Pin Reference	Descriptions
D2	Power Indicator (Green LED)
D3	Bootload Indicator (In bootload mode) (Red LED)

Table 3. J3 Descriptions.

Pin Reference	Descriptions
J3	ESP8266 Module Pinouts Extension



Figure 2. J3 illustration

Table 4. J4 Descriptions.

Pin Reference	Descriptions
J4	If shorted: In "Bootload Mode"



Figure 3. J4 illustration

Table 5. J6 Descriptions.

Pin Reference	Descriptions
J6	+3.3V and GND Power Supply Extension

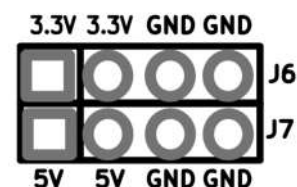


Figure 4. J6 and J7 illustration

Table 6. J7 Descriptions.

Pin Reference	Descriptions
J7	+5V and GND Power Supply Extension

Table 7. S3 Descriptions.

Pin Reference	Descriptions
S3	Serial Selection (UART or SUART)

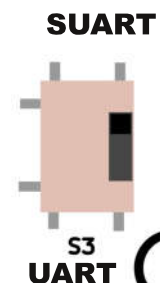


Figure 5. S3 Illustration.

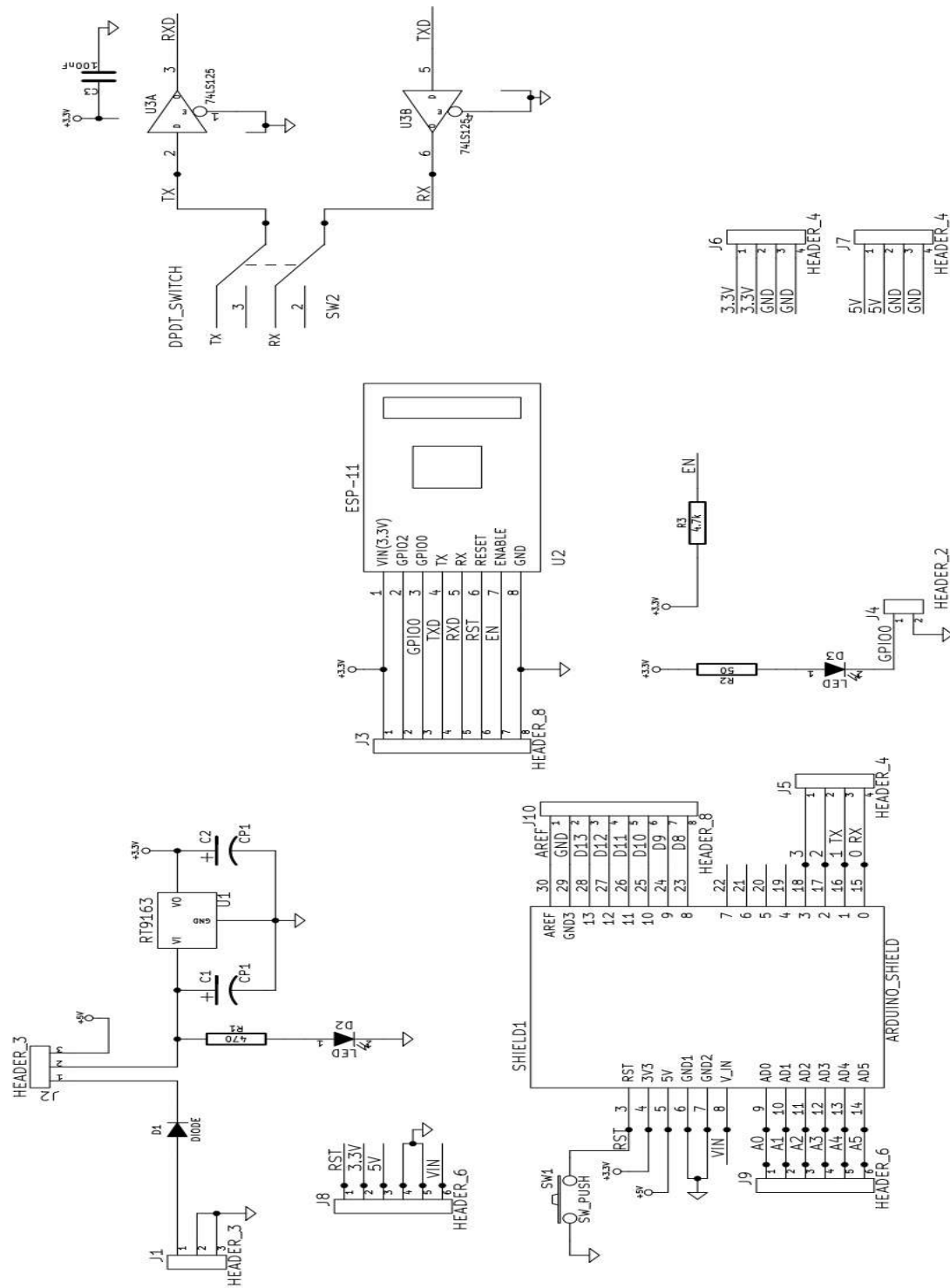


Figure 6. Schematic Diagram of e-Gizmo ESP8266 Wifi Shield

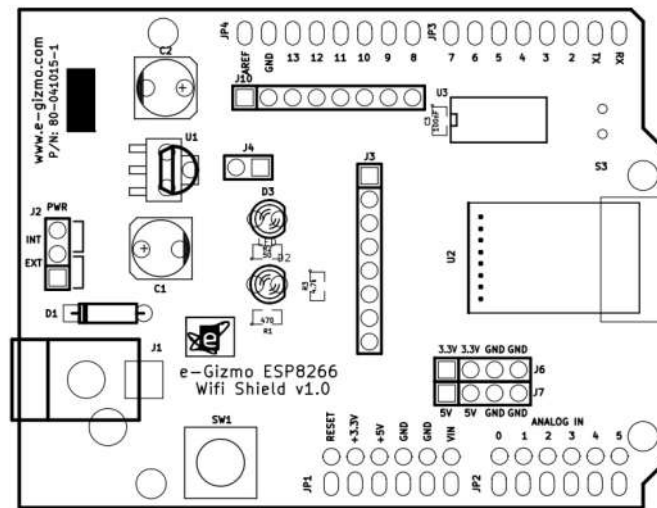


Figure 7 Parts Placements

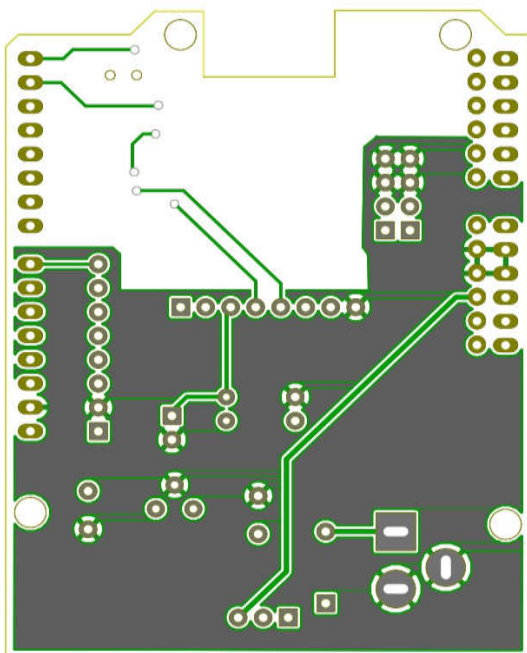


Figure 6 Bottom Guide layer

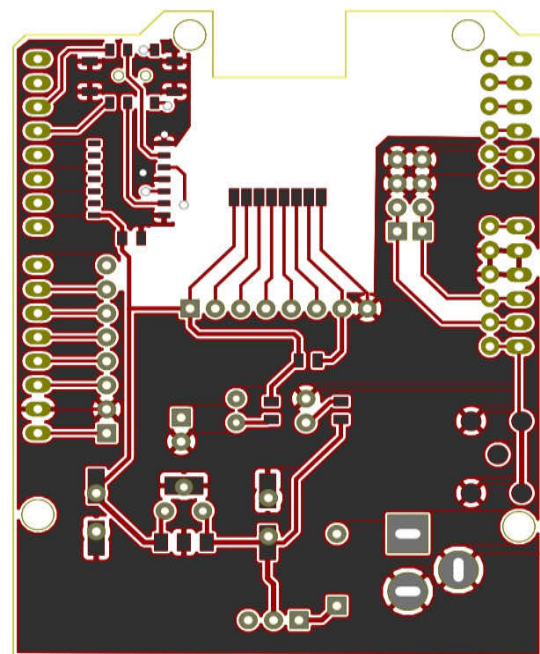


Figure 9 Top Guide Layer

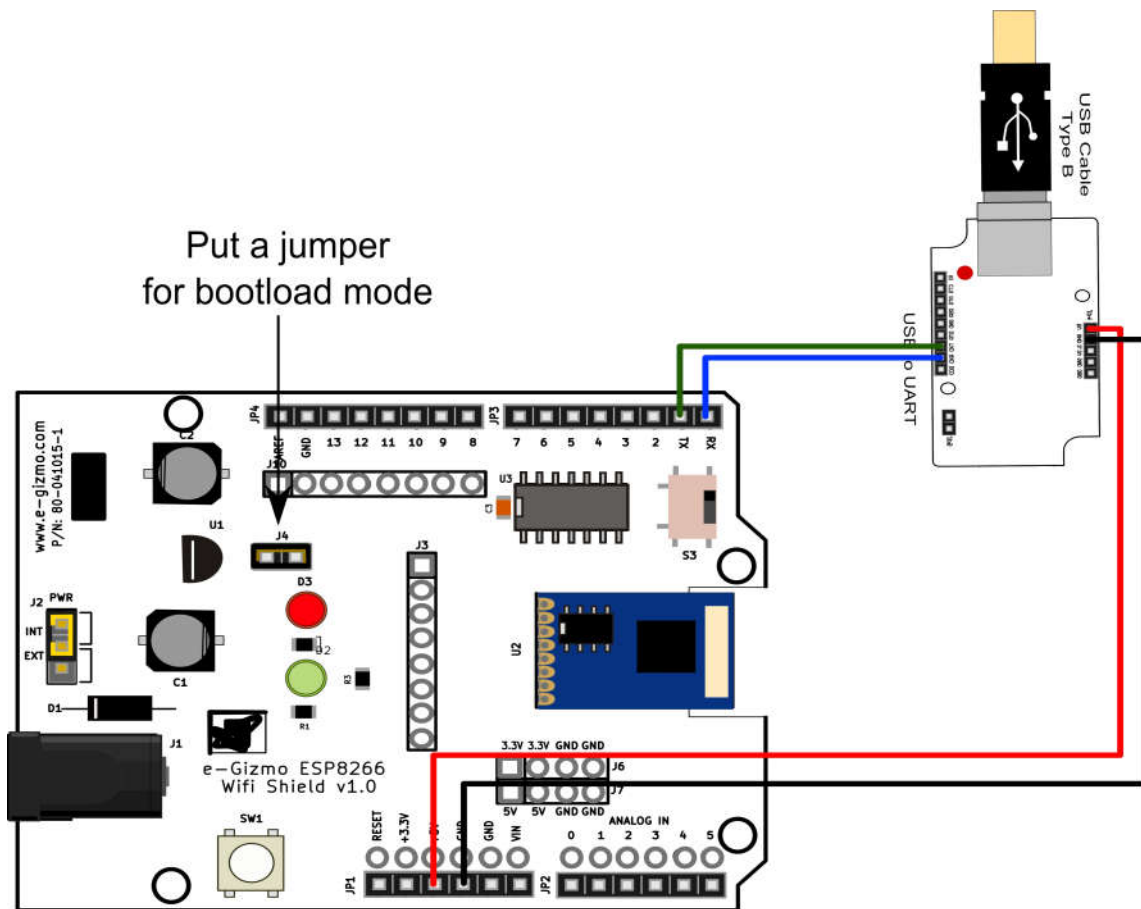


Figure 10 Sample Connections

Note: Use 3.3V from LDO or power supply.

USB to UART	-	Wifi Shield
+5V	-	+5V
GND	-	GND
RXD	-	RX (Pin 0)
TXD	-	TX (Pin 1)

ESP8266 Updating Firmware

1. Construct this wiring connections(Figure10).
2. Open esp8266_flasher.exe
(Run as administrator).

Note: Skip this page if you see the "ESP_9CD595" SSID in your wifi connections.

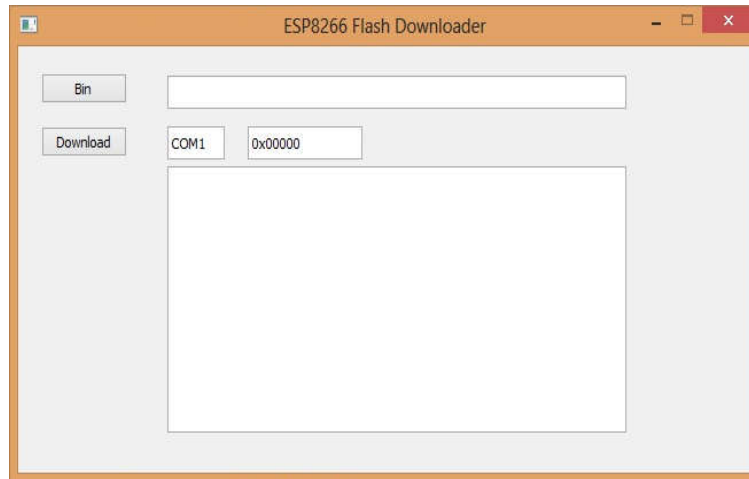


Figure 11
ESPFlasher

3. Look for v0.9.2.2 AT Firmware.bin and use it as the binary file in the flasher.

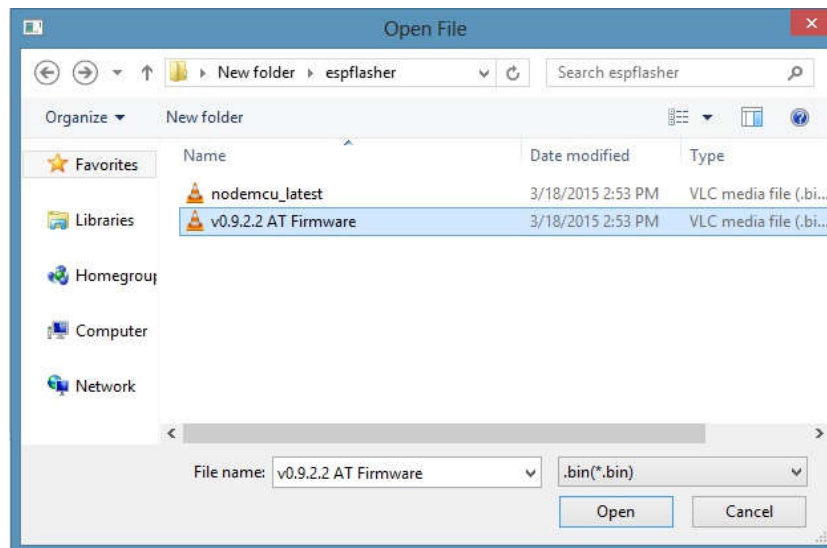
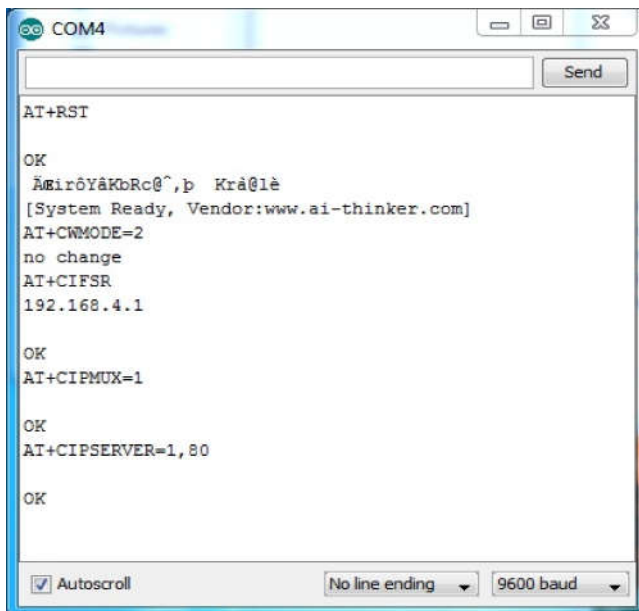


Figure 12
Select bin file
(firmware)

4. Select COMPORT number.
5. Click download.
6. Wait until the flashing is successfull(100%).
7. WNow, close the flash downloader then remove the Jumper in J4 (GPIO connected to GND). This means you are no longer in FLASH mode).

ESP8266 Sample Application

1. Attach the ESP8266 Wifi Shield to gizDuino + ATmega 644P.
2. Make sure the Power indicator is ON.
3. Open the ESPwirelesscontroller.ino (Sample Code).
4. Select Tools> Board>Gizduino + w/ ATmega644P.
5. Select Tools> Serial Port> COM #.
6. Click Upload.
7. Go to Wifi connection, Connect to the ESP_9CD595 wifi connection.



8. Open the Serial Monitor in Arduino IDE.
9. Now open the myesp8266control.html. (Make sure you are connected in ESP wifi module).
10. The Click the buttons. Use LED shield or LED to show turning ON/OFF the LEDS. LED1(D11),LED2(D12), LED3(D13).



Figure 13
Connect to ESP.



Figure 14
Open myesp8266control.html