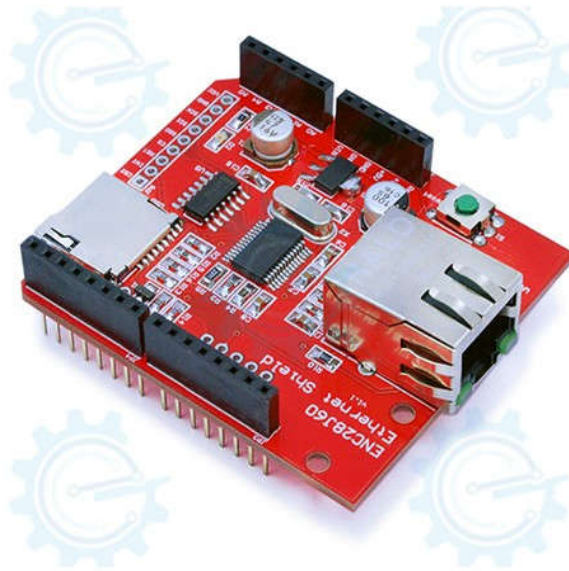


Ethernet Shield (ENC28J60)



Technical Manual Rev 1r0



ENC28J60 based ethernet interface module in gizDuino (Arduino Compatible) pin layout. It can be used just as easily with other MCU host controllers. Allows your gizDuino or MCU circuit to connect to your intranet and internet network. gizDuino users can easily build internet enabled projects and applications running codes built around the Arduino ENC28J60 libraries. A microSD card socket interface is included should you find a need for a large data storage space.

Features:

- IEEE 802.3™ Compatible Ethernet Controller
- Fully Compatible with 10/100/1000Base-T Networks
- Integrated MAC and 10Base-T PHY
- Supports One 10Base-T Port with Automatic Polarity Detection and Correction
- SPI Interface with Clock Speeds Up to 20 MHz

General Specifications:

Power Input: Powered via gizDuino (Arduino Clone)

Ethernet Speed: 10MBps, RJ45 Port

I/O Interface to Host MCU: SPI

On-Board Peripherals: Micro-SD Card Slot

PCB Dimensions:

Length : 54mm x **Width :** 64mm

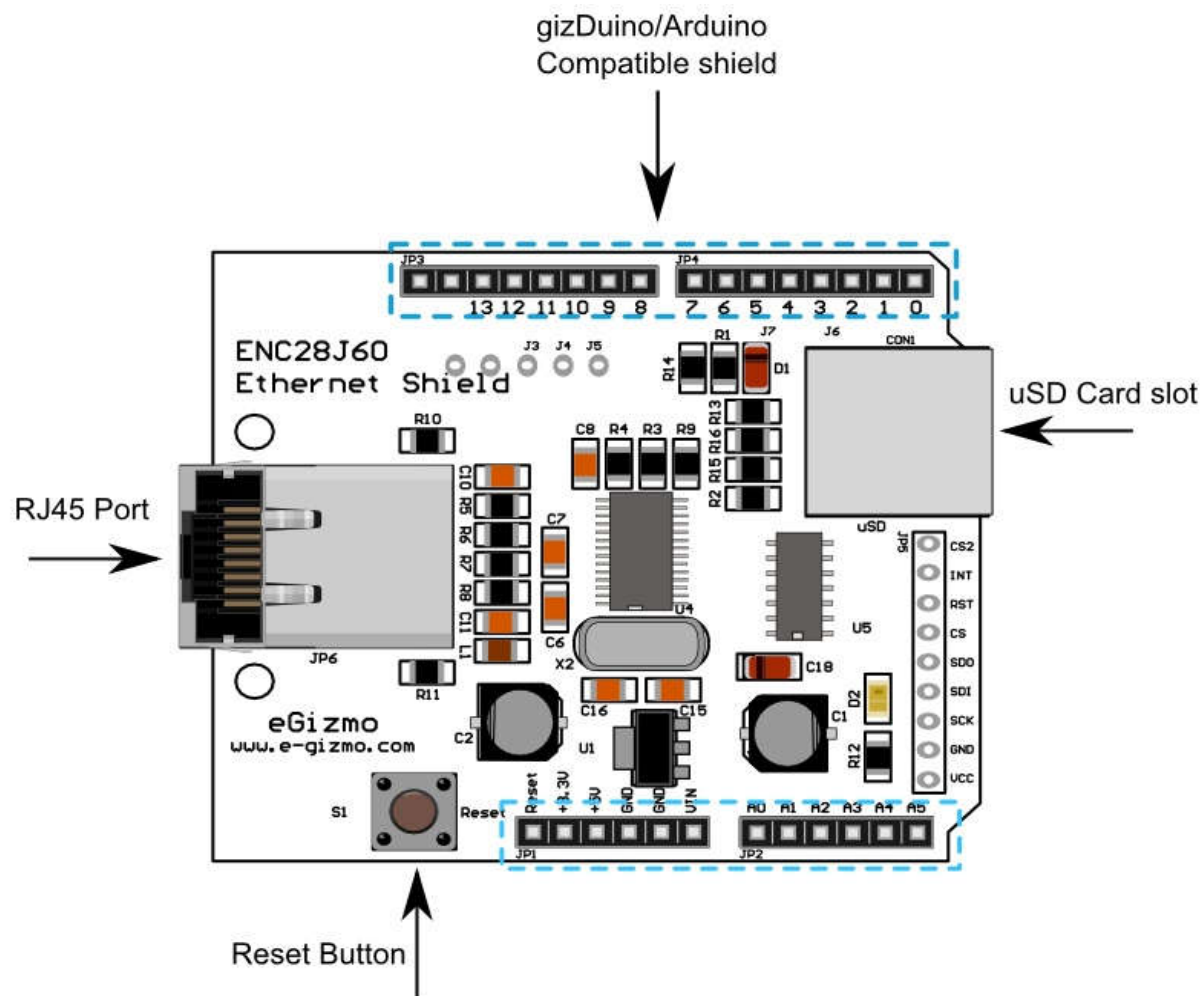


Figure 1. ENC28J60 Major Parts

Table 1. ENC28J60 used pinout I/O descriptions

Pin Name	Type	Descriptions
SCK	I	Clock in pin for SPI interface
SO	O	Data out pin for SPI interface
SI	I	Data in pin for SPI interface
CS	I	Chip select input pin for SPI interface
INT	O	INT interrupt output pin

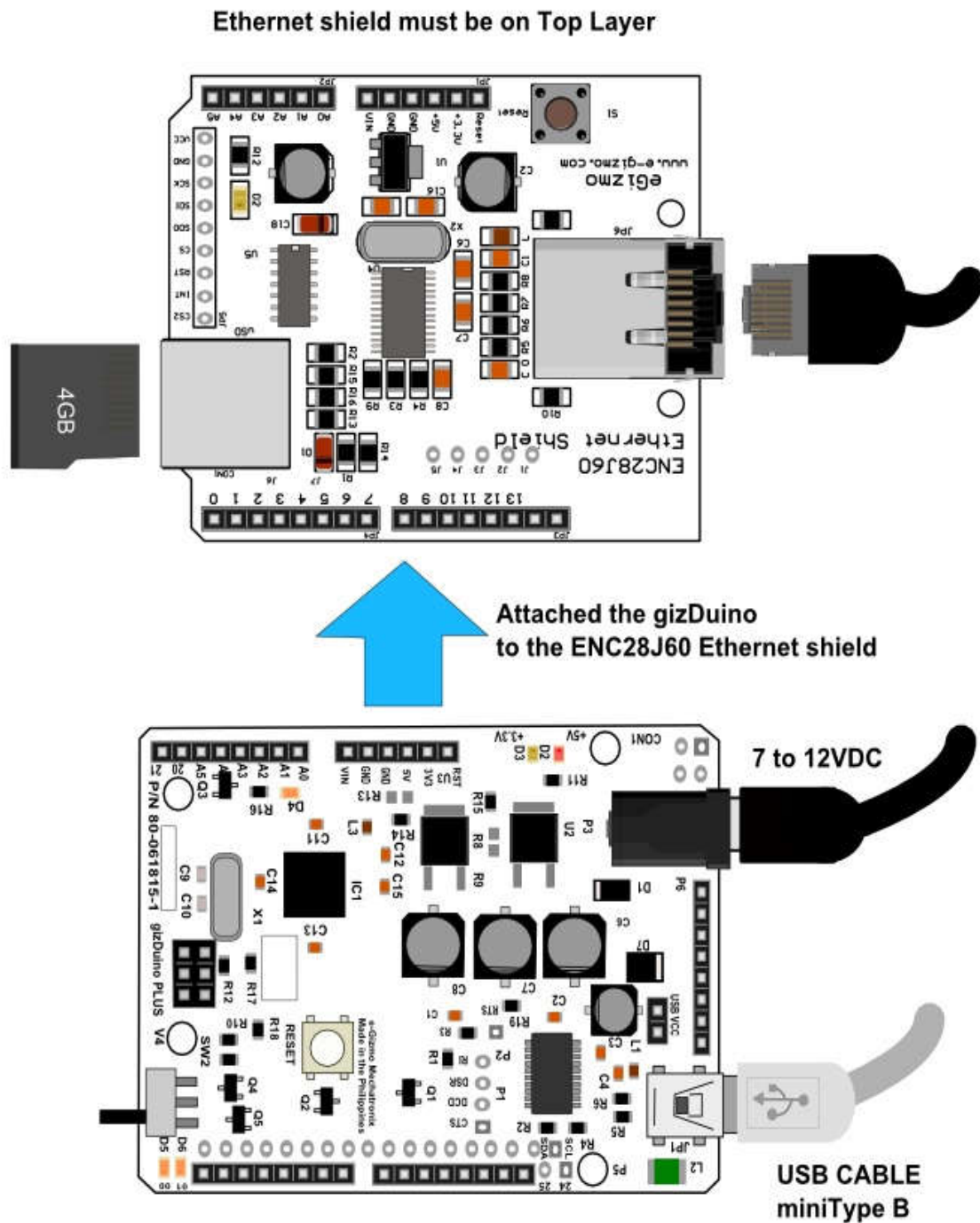


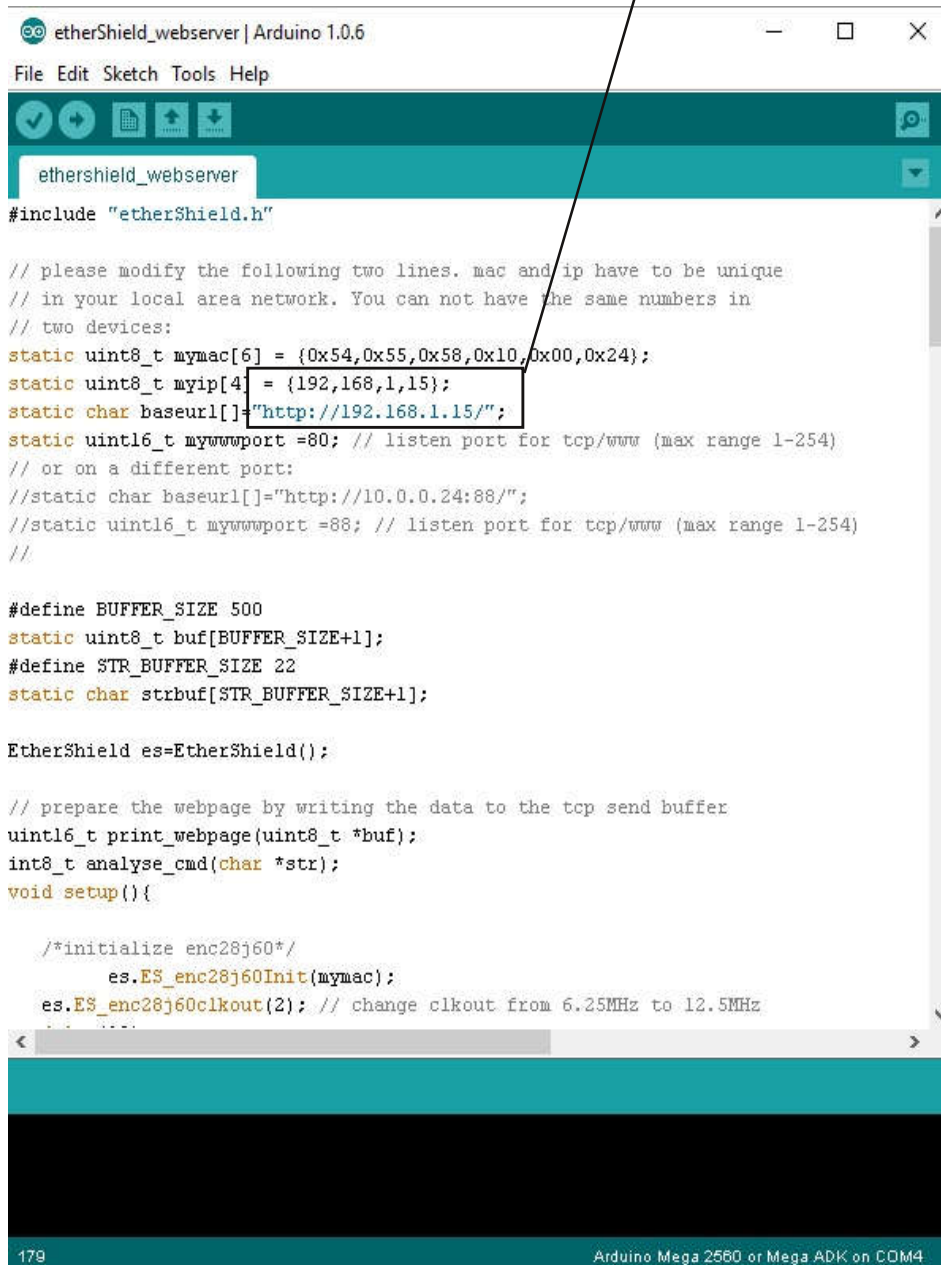
Figure 2: Sample connections for Ethernet shield with gizduino PLUS.

etherShield Library

Kindy download the etherShield Library for ENC28J60 Shield. Then add it to My Documents> Arduino>libraries.

Open the **etherShield_webserver.ino** sample code shown in figure 3.

Change the IP address according to your router setup. ex. Your router IP is 192.168.X.1



```

etherShield_webserver | Arduino 1.0.6
File Edit Sketch Tools Help

ethershield_webserver

#include "etherShield.h"

// please modify the following two lines. mac and ip have to be unique
// in your local area network. You can not have the same numbers in
// two devices:
static uint8_t mymac[6] = {0x54,0x55,0x58,0x10,0x00,0x24};
static uint8_t myip[4] = {192,168,1,15};
static char baseurl[]="http://192.168.1.15/";
static uint16_t mywwwport =80; // listen port for tcp/www (max range 1-254)
// or on a different port:
//static char baseurl[]="http://10.0.0.24:88/";
//static uint16_t mywwwport =88; // listen port for tcp/www (max range 1-254)
//

#define BUFFER_SIZE 500
static uint8_t buf[BUFFER_SIZE+1];
#define STR_BUFFER_SIZE 22
static char strbuf[STR_BUFFER_SIZE+1];

EtherShield es=EtherShield();

// prepare the webpage by writing the data to the tcp send buffer
uint16_t print_webpage(uint8_t *buf);
int8_t analyse_cmd(char *str);
void setup(){

  /*initialize enc28j60*/
  es.ES_enc28j60Init(mymac);
  es.ES_enc28j60clkout(2); // change clkout from 6.25MHz to 12.5MHz
  ...
}

179 Arduino Mega 2560 or Mega ADK on COM4
  
```

The value of X must be the same with myip[4] and baseurl[].
ex. where X = 0,
192.168.0.15

Then Upload the code.
After that Open your Internet Browser.
Just type the IP.

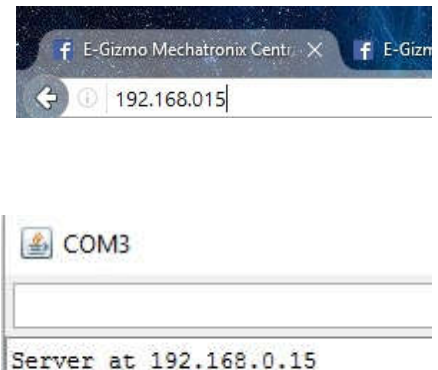


Figure 3: Sample codes in Arduino.

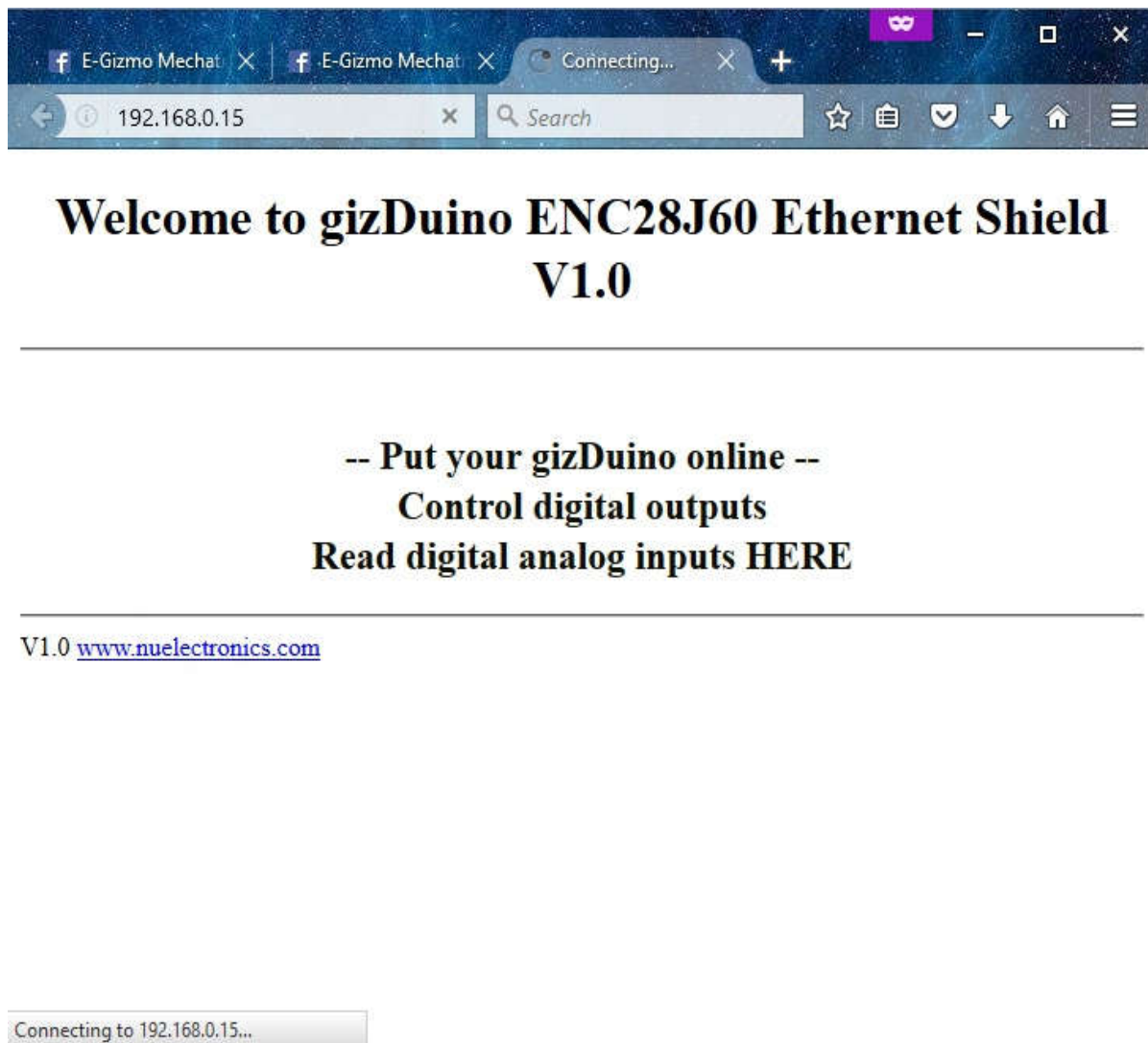


Figure 4: Serial print data from LoRa echo Receiver.