# RoboCore

## Arduino Shield Ethernet W5500

v1.0    30/11/17

**RJ45**

+3V3A
R10 49R9
R9 49R9

U$4
TD+  YLED+
TCT  TCT
TD-  TD-
NC   NC
RD+  RD+
RCT  RCT
RD-  RD-
GND
SHIELD
SHIELD  GLED-
TFTL-01

LED4 Yellow  YLED-
LED5 Green   GLED+

R6 1k  3V3-LED
LED_LINK
R5 1k
LED_SPEED

C10 10nF
RXP  RD+
C9 10nF
RXN  RD-
R12 49R9  R11 49R9
C8 10nF
RCT
GND

+3V3A
R8 27R
C7 100nF
TCT
GND

**74*1G125**
MOSI  2   4  MOSI-3V3
IC3  1  GND

**74*1G125**
SCK  2   4  SCK-3V3
IC4  1  GND

**74*1G125**
R24 10k  IOREF
D4  2   4  SD-3V3
IC5  1  GND

+3V3
5 VCC  5 VCC  5 VCC  C5 1uF
IC3P  IC4P  IC5P
3 GND  3 GND  3 GND
GND

+3V3
R7 10k
R3 1k  Q1 BC807
LED_LINK
3V3-LED
R1 1k  R2 1k
LED1 Green  LED2 Yellow
LED_ACT  LED_FDX
GND

**IC1 NCP1117-3V3**
+5V  IN  OUT  +3V3
C1 47uF  ADJ  C2 47uF
GND
**3V3**

+3V3  L1 742792011  +3V3A
+3V3  L2 742792011  +3V3D
C3 10uF  C4 10uF
GND  GND

**W5500**

U1  W5500
IOREF  +3V3D  +3V3A
R19 10k  R21 10k
RXN 5  RXN      TXN 1  TD-
RXP 6  RXP      TXP 2  TD+
XI 30  XI       XO 31  XO
D10 32 SCSN     VBG 18
SCK-3V3 33 SCLK TOCAP 20
INT_N 36 INTN   1V2O 22
RESET 37 RSTN
MOSI-3V3 35 MOSI MISO 34  MISO
C13 10nF  C12 4,7uF
PMODE0 45 PMODE0  SPDLED 24  LED_SPEED
PMODE1 44 PMODE1  LINKLED 25  LED_LINK
PMODE2 43 PMODE2  DUPLED 26  LED_FDX
                  ACTLED 27  LED_ACT
VDD 28  AVDD 4*6
DNC 7
EXRES1 10
RSVD 23*6
AGND 3*6
GND 29
R17 12k4 1%
GND  GND

+3V3D
R13 10k  PMODE0
R14 10k  PMODE1
R15 10k  PMODE2

+5V  IOREF
J4  8 7 6 5 4 3 2 1
RESET
GND

J3  6 5 4 3 2 1

J6  10 9 8 7 6 5 4 3 2 1
GND  D13
SS-ETH
D10

J5  8 7 6 5 4 3 2 1
SS-SD  D4
INT_N
SD-DETECT  SU$1  SJ1

J2  FEMALE 2x3
MISO  1 2 +5V
SCK   3 4 MOSI
RESET 5 6

**LED 13**
GND
IC2  1
D13  2  4
74*1G125  R4 1k  +3V3
LED3 Yellow  IC2P 5 VCC
3 GND
GND  GND

**SD card**
U$3  MICRO.SD_693071010811
SCK-3V3  CLK   VDD  +3V3
MOSI-3V3 CMD   DS1  IOREF
         DAT0  DS2  R25 10k
         DAT1       SD-DETECT
MISO     DAT2  VSS  +3V3
SD-3V3   CD/DAT3    C11 100nF
GND  GND

LED6
R16 1k  +3V3
LED6 Green
GND

+3V3A  +3V3D
C15 100nF  C16 100nF  C17 100nF  C18 100nF  C19 100nF  C20 100nF  C14 100nF
Close to each supply pin
GND  GND

**RST**
IOREF
R18 10k
RESET
GND

XI  R20 1M  XO
U$2  25MHz
C21 22pF  C22 22pF
GND

Design by:  Original desing by Arduino team;
Arduino Shield - Ethernet by RoboCore.