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Getting Started with WIZ750SR

Supported Languages

- English (current page)
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*** This section was written on the assumption that the use of WIZ750SR-RS232 evaluation board.**

Unpacking the WIZ750SR Evaluation Kit

What's in the Box?

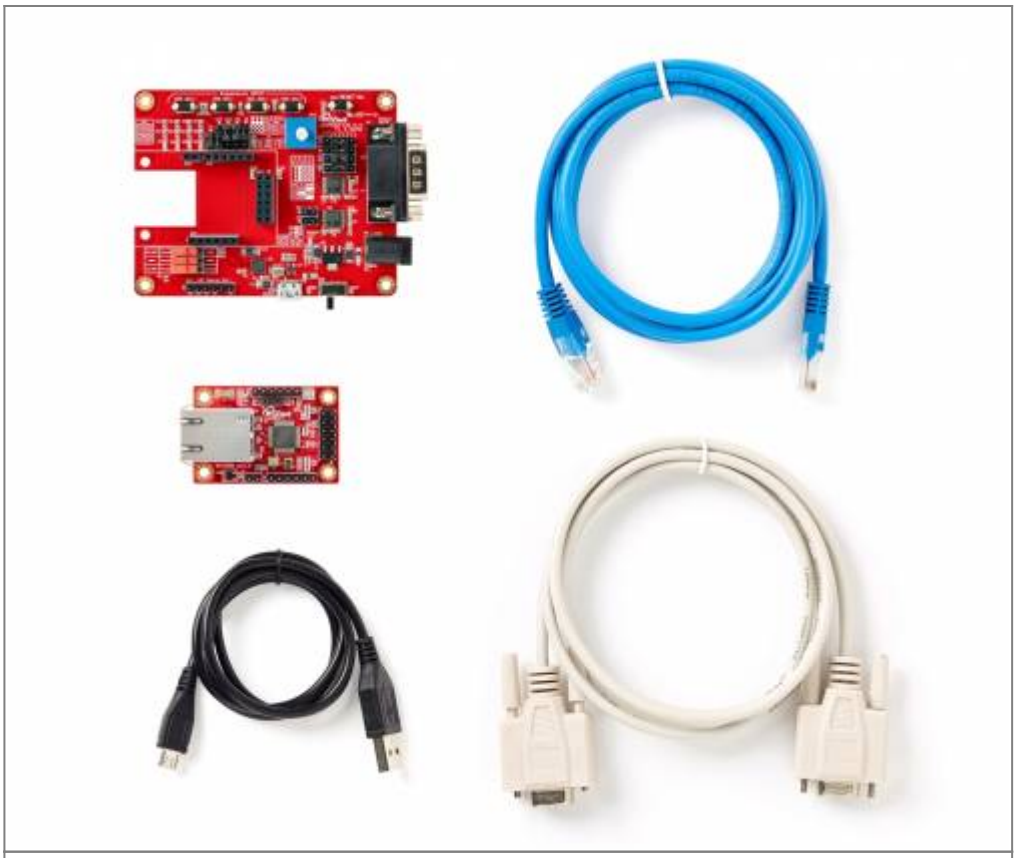

Figure: *WIZ750SR Rev. 1.1 Evaluation Board Package*

The WIZ750SR-232 evaluation board package contains the following parts.

- WIZ750SR-232 Module
- WIZ750SR-232/TTL-EVB Evaluation Board
- Cables (Ethernet / Serial / Micro USB Type B)

The entire list of parts of the board is available at the WIZ750SR Overview: Product Contents page.

Device Layout

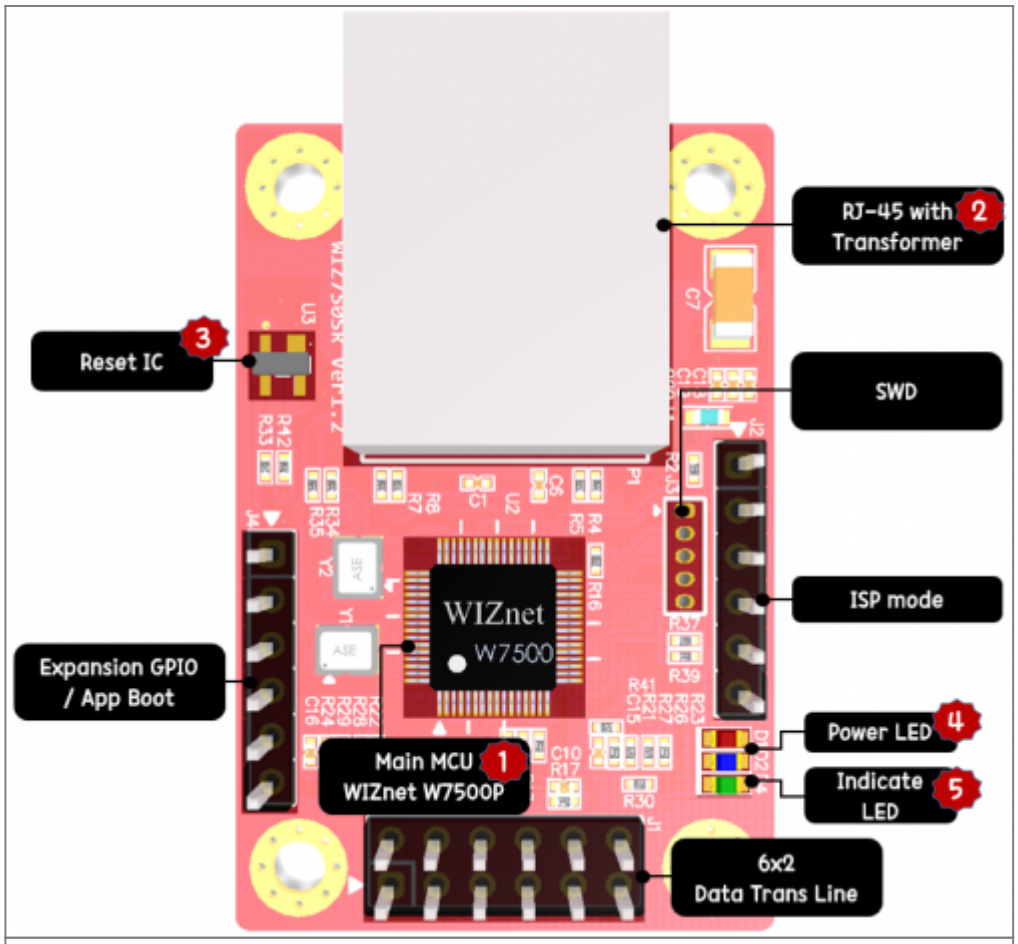

Figure: *WIZ750SR Revision 1.1 Top*

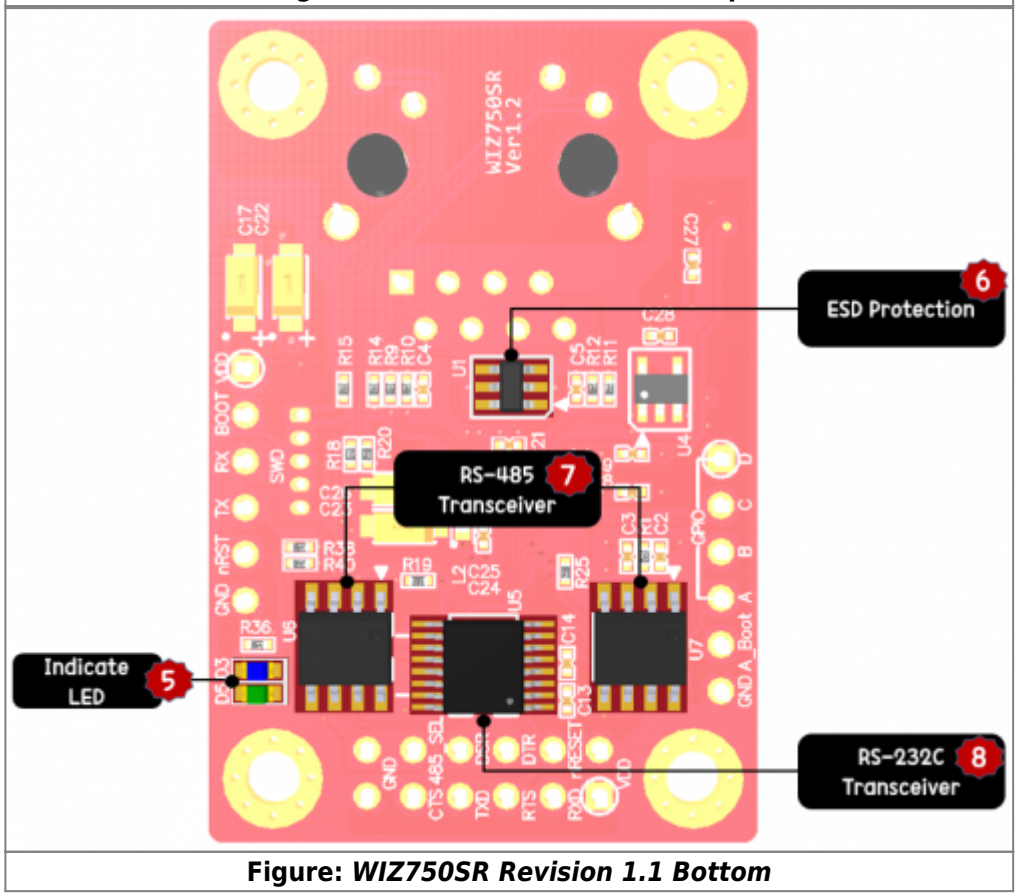

Figure: *WIZ750SR Revision 1.1 Bottom*

Parts

- ARM Cortex-M0 based Hardwired TCP/IP core plus PHY Ethernet MCU **W7500P** [1)] [1]
- **Reset IC** [3]
- **Power LED**(red) [4]
- **Status LED** (blue: PHY link status / green: TCP connection status) [5]
- **4-Channel ESD Protection IC** [6]
- **RS-422/485 Transceiver** (Optional, WIZ750SR-RS485 module mount only) [7]
- **RS-232 Transceiver** (Optional, WIZ750SR-RS232 module mount only) [8]

Interfaces and Ports

- **Ethernet Network Connector**: RJ-45 with transformer [2]
- **Data UART Port**: 6×2 2.54mm Pin header
- **Debug UART Port**: 6×1 2.54mm Pin header (Debug UART pins and MCU boot pin / GND)
- **User I/O Pins**: 6×1 2.54mm Pin header (4-Pins user I/O and application boot pin / GND)

Prerequisites for Setup

Software

- Configuration tool program (Download page)
- TCP server / TCP client / UDP terminal program
- Serial terminal program

Hardware

- Your WIZ750SR module and Evaluation board
- Ethernet cable
- USB type B cable (for Debug UART)
- DB9 serial RS-232 cable (for Data UART, RS-232/TTL Ver. only)
- Power source for device
    - Such as 5V DC adapter, USB port on your computer, or 3.3V Power source

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Connect Your WIZ750SR

WIZ750SR Factory Settings

Network Settings	**Local**	**IP address**	192.168.11.2	-
		Gateway address	192.168.11.1	-
		Subnet mask	255.255.255.0	-
		DNS server	8.8.8.8	Google Public DNS
		Port number	5000	-
	Remote	**IP address**	192.168.11.3	-
		Port number	5000	-
Serial Port Settings	**Data UART**	115200-8-N-1 / Flow Control: None		-
	Debug UART	115200-8-N-1 / Flow Control: None		Fixed

User's I/O Settings	**UserIO A**	Analog / Input	Read only
	UserIO B	Digital / Input	Read only
	UserIO C	Digital / Output	Read / Write
	UserIO D	Digital / Output	Read / Write

- Operation mode: **TCP server mode**
- Debug message: **Enabled**
- Serial command mode switch: **Enabled**
- Serial command mode switch code: **+++** (hex code, [2B][2B][2B])

- Data packing option - Time: **Disabled**
- Data packing option - Size: **Disabled**
- Data packing option - Char: **Disabled**

- Inactivity Timer: **Disabled**
- Reconnection Timer: **3 second**
- Keep-Alive: **Enabled, 7-sec initial delay, 5-sec send interval**

PC Settings

> Double check that the WIZ750SR and the PC, or laptop you are using to set up WIZ750SR with are both on the same Ethernet network.

Example: PC Network Settings

* When the WIZ750SR's settings are factory default,

Network Settings	**PC or laptop (= Remote)**	**IP address**	192.168.11.3	-
		Gateway address	192.168.11.1	-
		Subnet mask	255.255.255.0	-
		Port number	5000	-

- User should to matching the network settings of 'WIZ750SR's remote host' and 'PC (or laptop)' for testing TCP client/mixed mode.
- If the DHCP(automatic IP allocation) is used, both the WIZ750SR and test PC must be set to be assigned the same IP from the same router.

Connecting Steps

> The **RS-232/TTL version of WIZ750SR-EVB** is designed to use the **DB9 connector** to connect with the user's serial device. Therefore, it is recommended to have all **Ethernet and serial ports connected to the PC** when testing. If the PC does not have a serial port, please purchase a **RS-232 to USB converter** separately.
>
> - **In case of the RS-422/455 version of WIZ750SR-EVB, the serial connector is composed of terminal block.**

Step 1: Plug in

Connect the WIZ750SR module to evaluation board and also the cable as shown in the picture below.

- Ethernet Cable
  - Used to connect the evaluation board’s RJ-45 connector and the PC’s Ethernet network interface card (PC's RJ-45 connector)
- Serial Cable
  - Used to connect the evaluation board’s DB9 connector and the serial interface card (DB9 connector). If the PC does support serial interface, use the RS-232 to USB converter.
- Optional: USB type B cable (for debug message)
  - Used to connect the evaluation board’s USB connector and the PC’s USB connector.

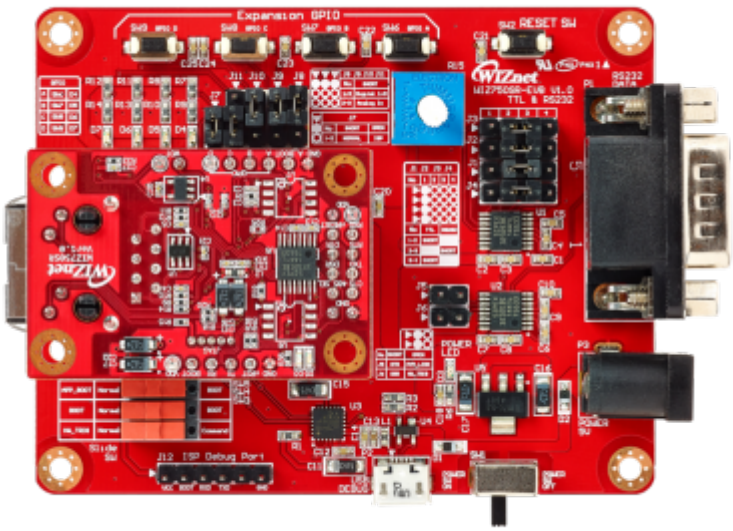

Figure: Combining WIZ750SR module and EVB

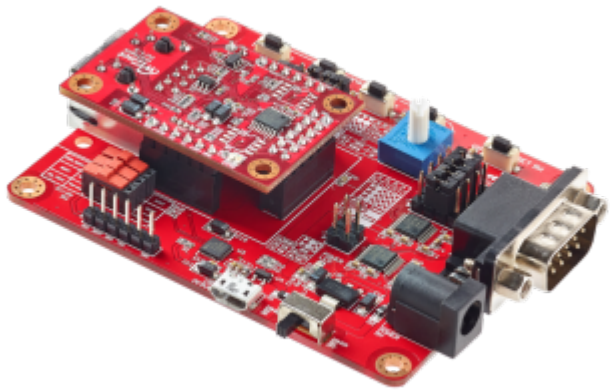

Figure: WIZ750SR-EVB side view

Step 2: Power on

Connect the 5V power adaptor or USB cable to the evaluation board and turn on the power switch.

- The power LED will turn red once the evaluation board is on.

Step 3: Search

Open the configuration tool and click the search button. If the board is turned on and connected to the same network, the MAC address or settings of the WIZ750SR module can be checked using the configuration tool.

> **The new WIZ750SR configuration tool can be downloaded from Github below.**
>
> - https://github.com/Wiznet/WIZnet-S2E-Tool-GUI
> - https://github.com/Wiznet/WIZnet-S2E-Tool-GUI/releases

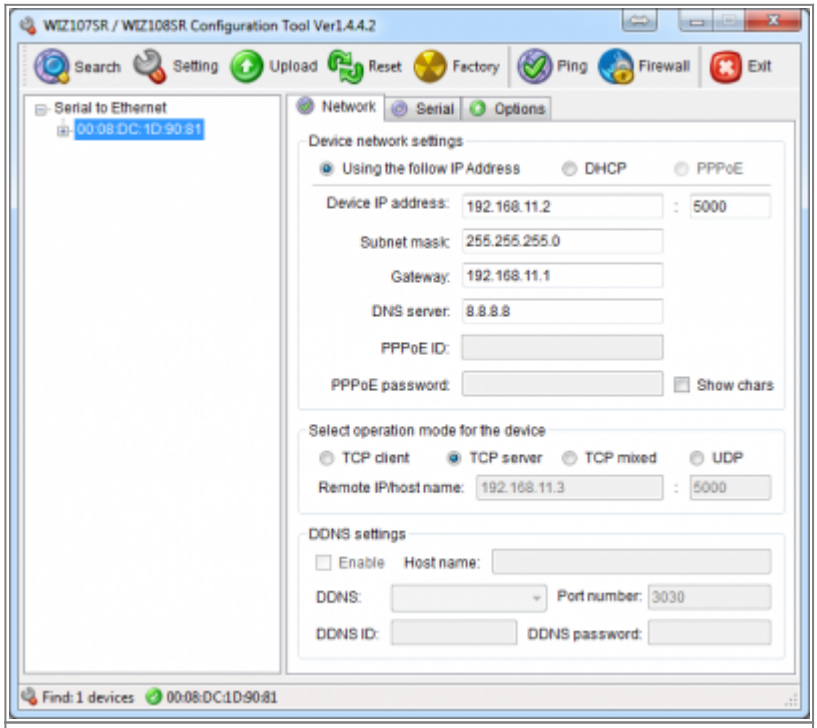

Figure: WIZnet Configuration Tool

Step 4: Set up your WIZ750SR

Change the settings accordingly to the customer's environment. The test shown in this document is based on factory setting.

- Click the **setting** button to apply the changes in settings of the configuration tool.

Step 5: Connect

Connect the PC as the TCP client of the user's serial device for data communication testing. In order to do this, the serial terminal program / TCP client terminal program must be opened on the PC. The serial terminal program and TCP client program must be set as below.

- Serial terminal program: **115200-8-N-1, Flow control: None**
- TCP client program: **192.168.11.2:5000** (The IP address and port number of WIZ750SR)

The COM port for serial terminal program connection can be checked as below.

- Control Panel > System > Device Manager

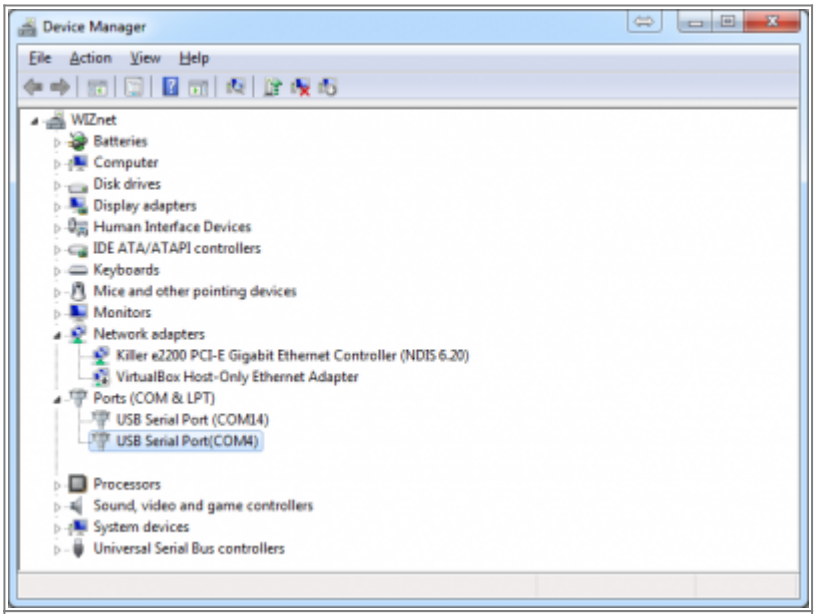

Figure: Device Manager

Step 6: Verify

The basic data communication of the WIZ750SR can be verified as below.

- **Serial to Ethernet: data communication verification**
  - Enter the character string in the serial terminal and check if the identical character string appears on the TCP client terminal.
- **Ethernet to Serial: data communication verification**
  - Enter the character string in the TCP client terminal and check if the identical character string appears on the serial terminal.

Step 7: Done

Now you're ready to use the WIZ750SR!

- This document is based on the **assumption of the PC as the serial device / remote network device**.
- The next step is to **connect the WIZ750SR module to the target serial device** and check if the device can **communicate, control, and monitor** via the **remote PC or monitoring server**.

If there is any problem?
Please refer to our **Troubleshooting Guide**!

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[1)]
W7500/W7500P are One-chip Ethernet MCU solution based on ARM Cortex-M0 architecture plus WIZnet hardwired TCP/IP core include Ethernet PHY. For more details, please refer to W7500P product page