

SYRD245-1N-N

2.45 GHz RFID Network Reader

User Manual



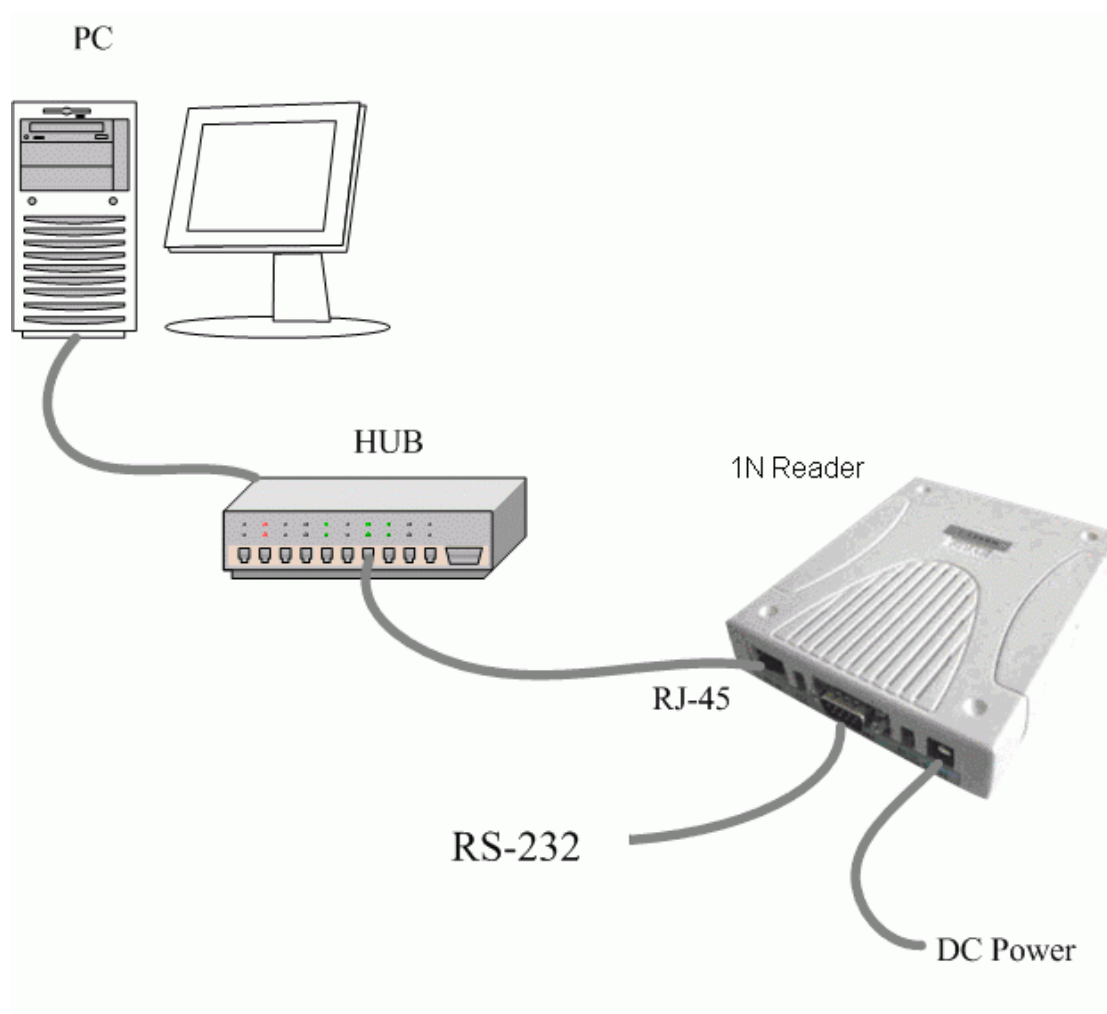
Version 1.3
2019/01/22

I . Product Specification

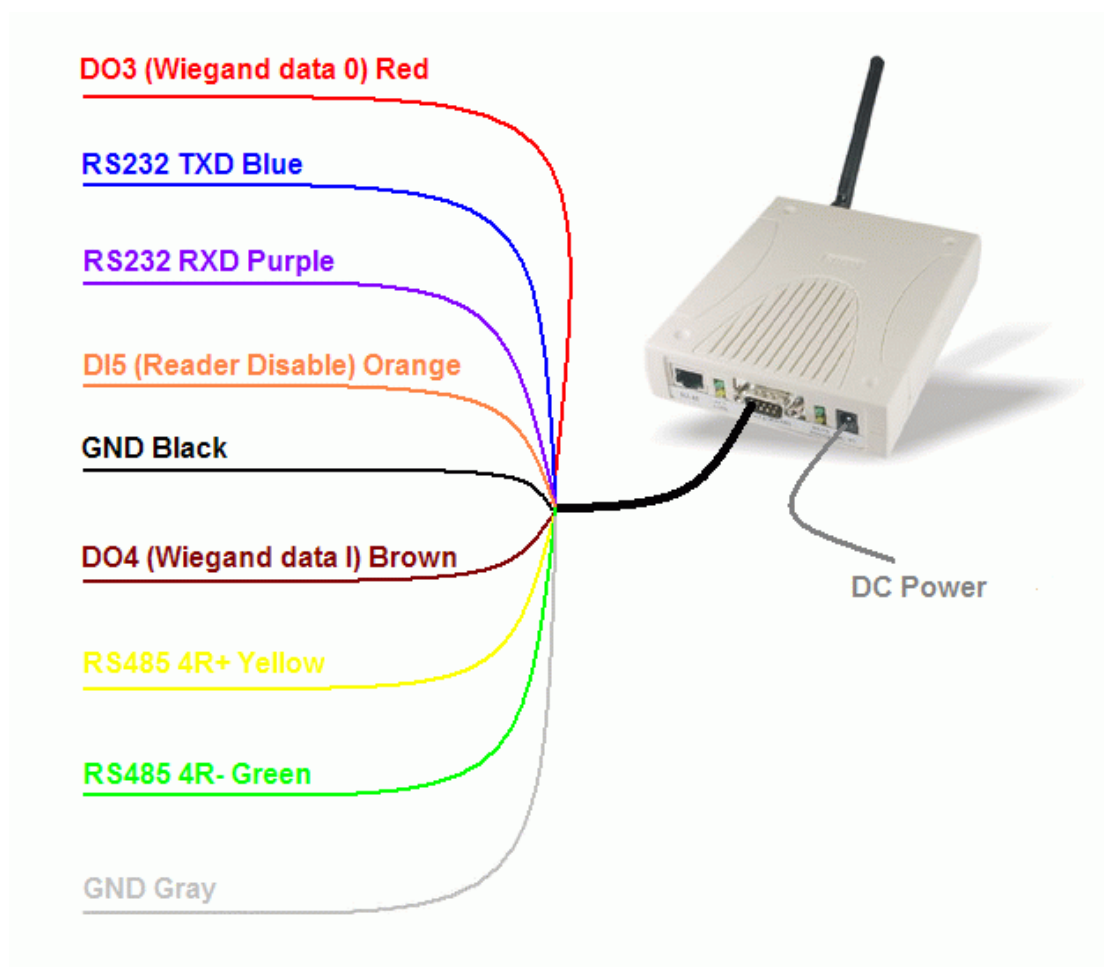
Communication	2.45 GHz Support read and write
Frequency	2.40~2.48 GHz
Channel	316
RSSI	0-255
LQI	0-255
Programmable	Set Parameters
LED	Multi-LED visual indication
Ethernet	10/100 base-T Ethernet (RJ-45)
RS-232	RX, TX
Protocols	ICMP, ARP, IP, TCP(Server/Client), UDP, DHCP, HTTP
Baud Rate	2,400 bps ~ 115,200 bps
Power Input	7 VDC ~ 15 VDC
Action Current	MAX 500 mA @ 12 VDC
Operating Temperature	-20 °C to 65 °C, 5 to 95%RH
Storage Temperature	-30 °C to 85 °C, 5 to 95%RH
Dimension	107W x 138H x 30D (mm)

II . The Diagram of the System Connection

SYRD245-1N-N Network Reader can connect with 3 different interfaces :
RJ-45 ,RS-232 and RS-485.

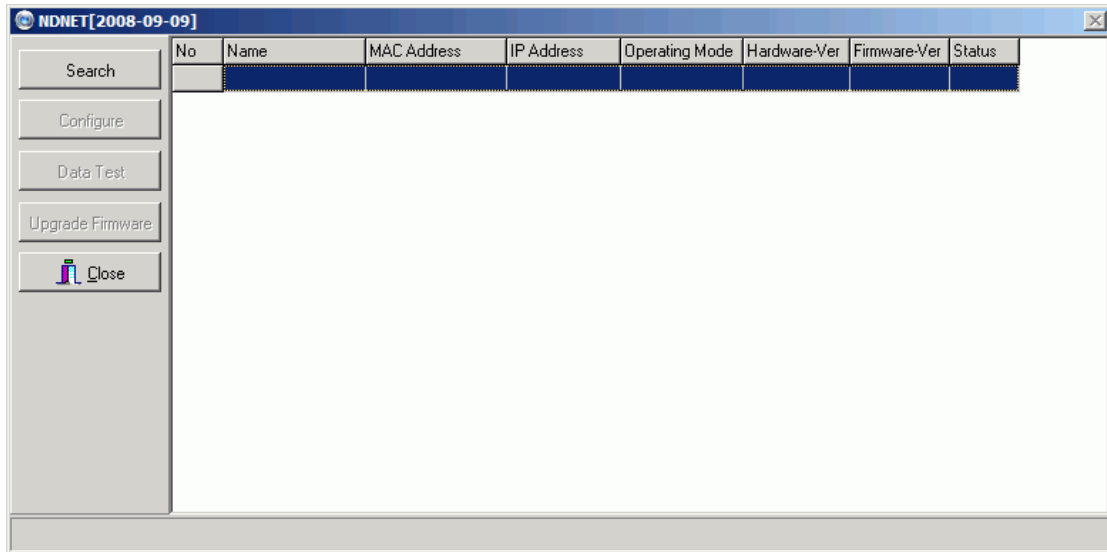


SYRD245-1N-N connection to PC

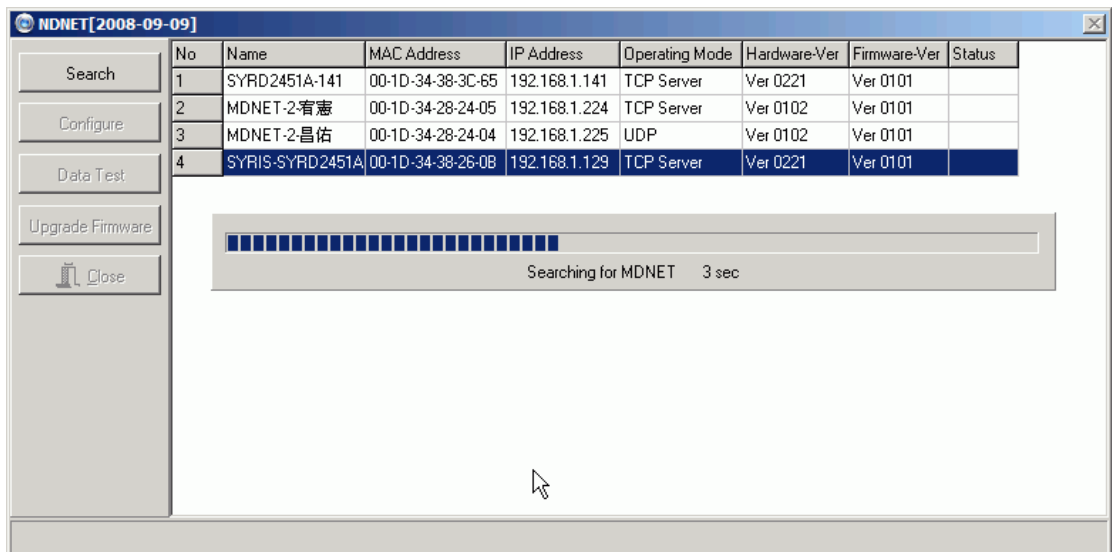


SYRD245-1N-N connection to RS-485

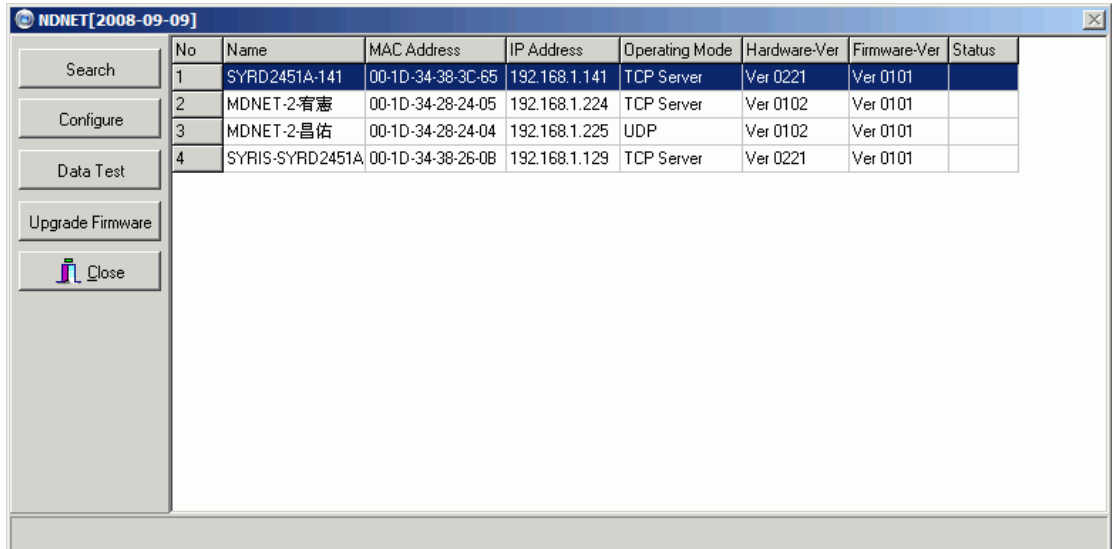
IV. Setup MDNET-2



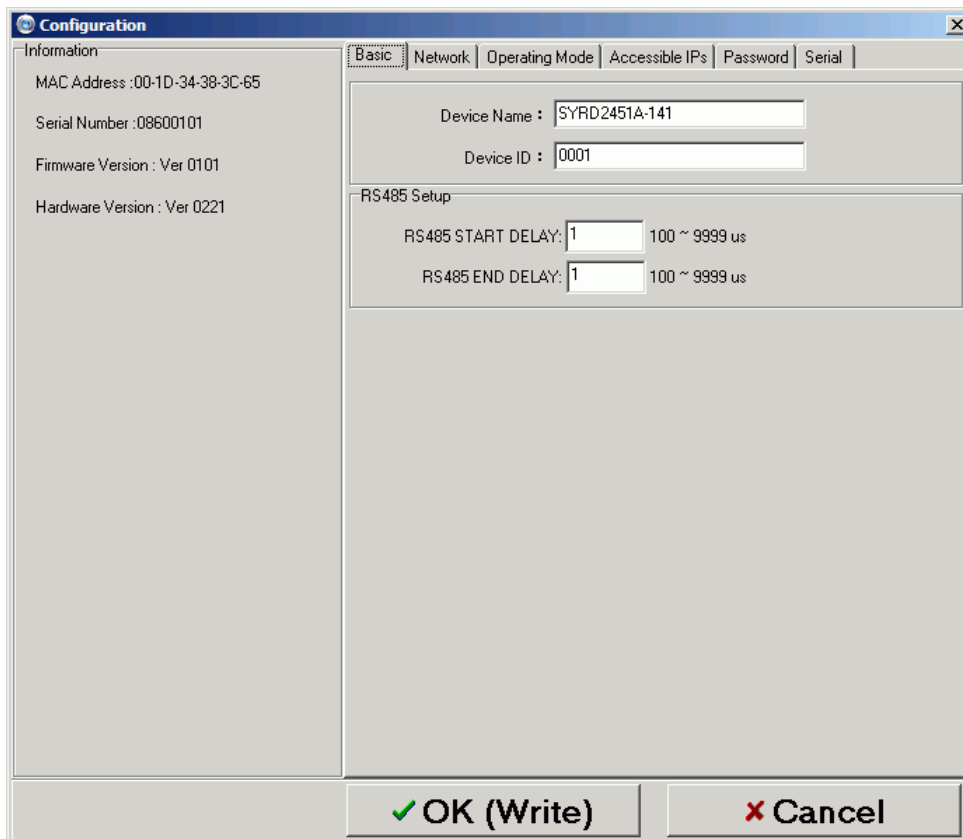
1. Click on Search Button, showing that the program is searching for network module connected to this network.



- After the search is finished, all network module found will be shown in the right panel of the window. If you locate more than one module connected to this network, refer to the MAC address on the module(s) to determine which modules are the ones you wish to configure.

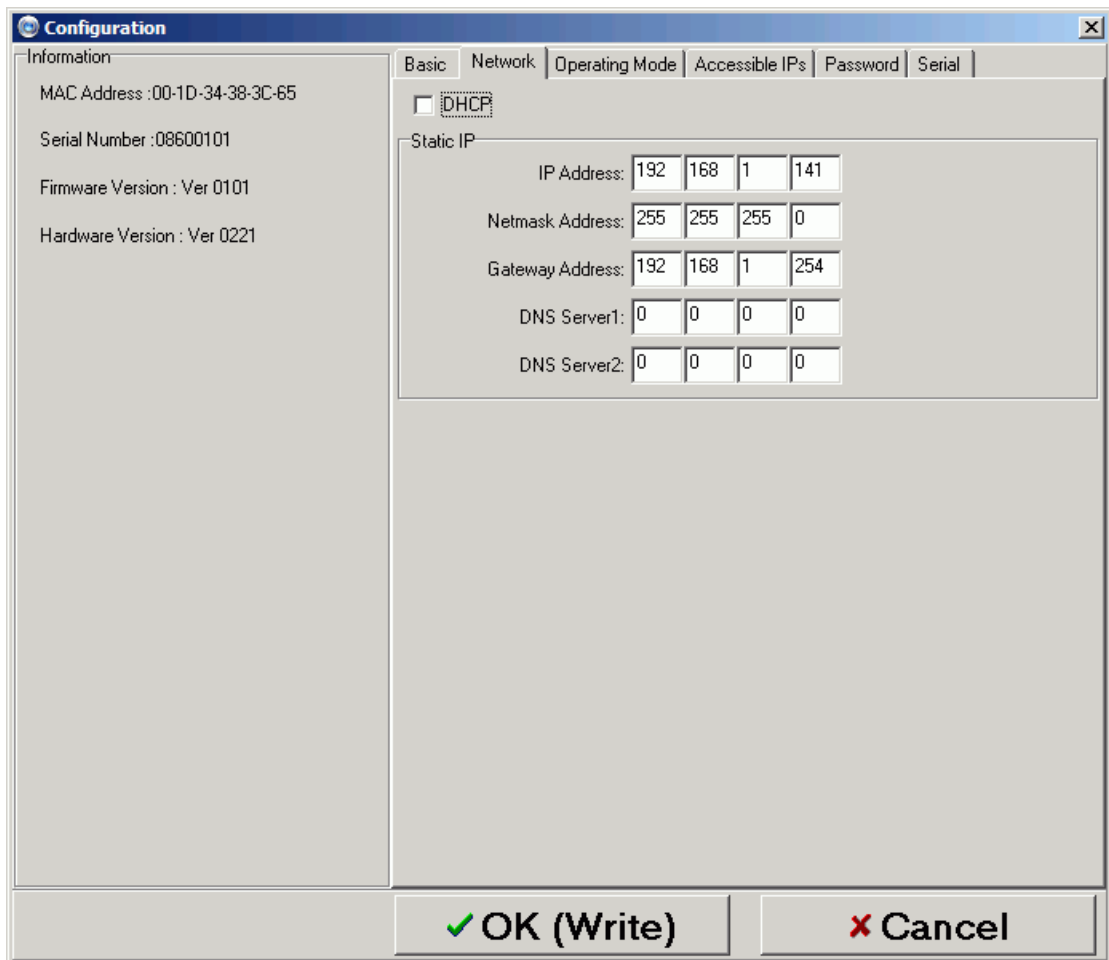


- Double click selected network module you wish to configure, the Configuration window will open.

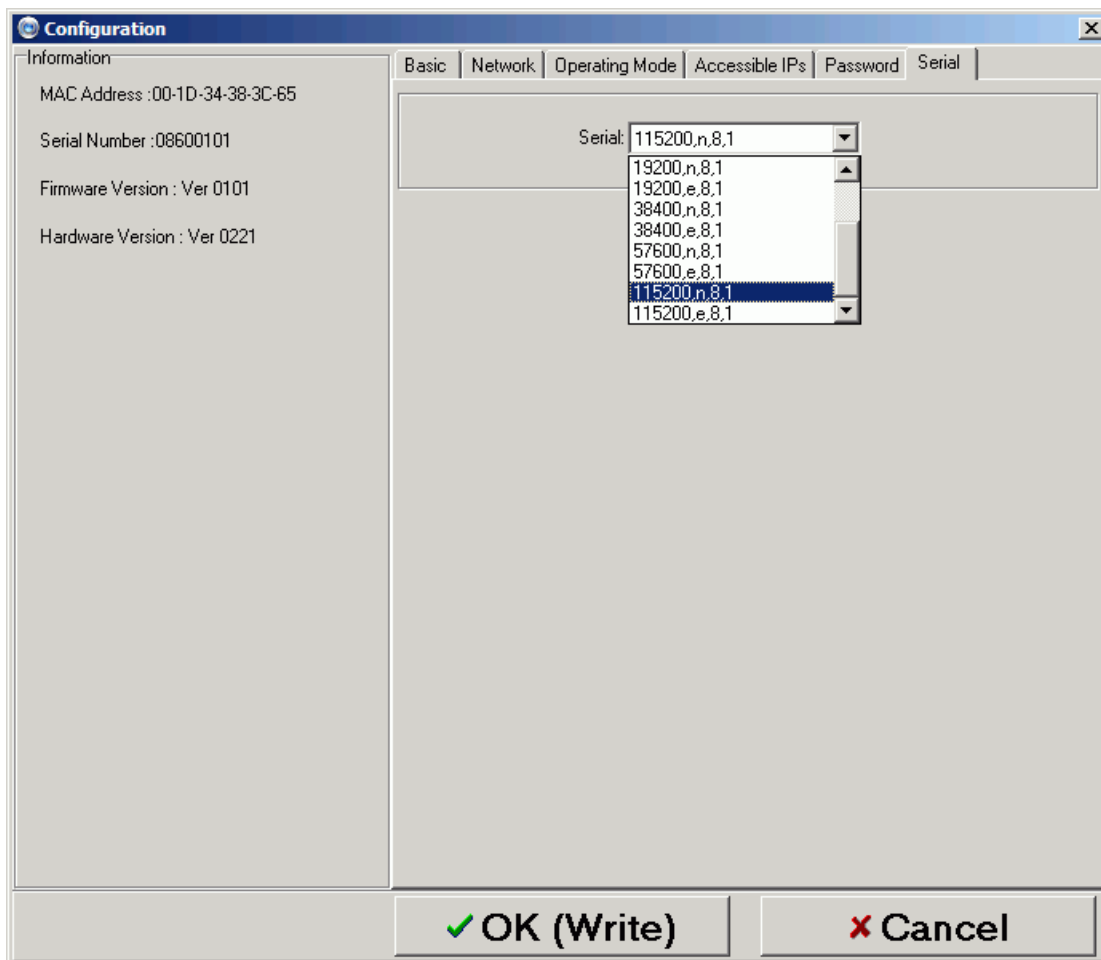


4. The Configuration window has 6 tabs: Basic, Network, Operating Mode, Accessible IPs, Password and Serial.
5. Basic: You can set Device Name here.
6. Network: You must assign a valid IP address to network module before it will work in your network environment. Your network system administrator should provide you with an IP address and related settings for your network. The IP address must be unique within the network. You can choose from 2 possible IP Configuration modes: Static, DHCP.

Method	Function Definition
Static	User defined IP address, Netmask, Gateway.
DHCP	DHCP Server assigned IP address, Netmask, Gateway and DNS

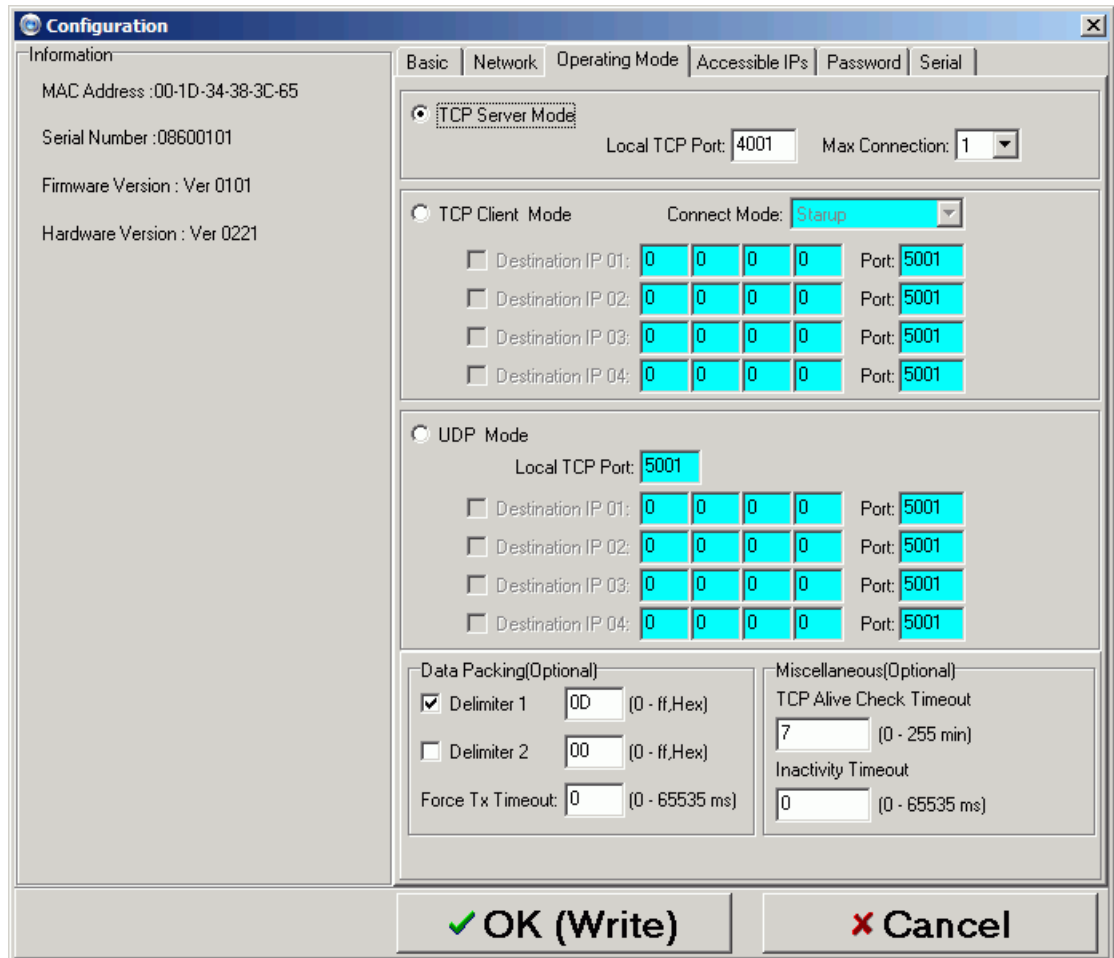


7. Serial: You should set up network module serial parameters as below diagram.



8. Operating Mode:

Three different Socket Modes are available: TCP Server, TCP Client, and UDP mode. The main difference between the TCP and UDP protocols is that TCP guarantees delivery of data by requiring the recipient to send an acknowledgement to the sender. UDP does not require this type of verification, making it possible to offer speedier delivery. UDP also allows multicasting of data to groups of IP addresses.



Configuration

Information

MAC Address : 00-1D-34-38-3C-65

Serial Number : 08600101

Firmware Version : Ver 0101

Hardware Version : Ver 0221

Basic | Network | **Operating Mode** | Accessible IPs | Password | Serial

TCP Server Mode

Local TCP Port: 4001 Max Connection: 1

TCP Client Mode

Connect Mode: Startup

Destination IP 01: 0 0 0 0 Port: 5001

Destination IP 02: 0 0 0 0 Port: 5001

Destination IP 03: 0 0 0 0 Port: 5001

Destination IP 04: 0 0 0 0 Port: 5001

UDP Mode

Local TCP Port: 5001

Destination IP 01: 0 0 0 0 Port: 5001

Destination IP 02: 0 0 0 0 Port: 5001

Destination IP 03: 0 0 0 0 Port: 5001

Destination IP 04: 0 0 0 0 Port: 5001

Data Packing(Optional)

Delimiter 1: 0D (0 - ff,Hex)

Delimiter 2: 00 (0 - ff,Hex)

Force Tx Timeout: 0 (0 - 65535 ms)

Miscellaneous(Optional)

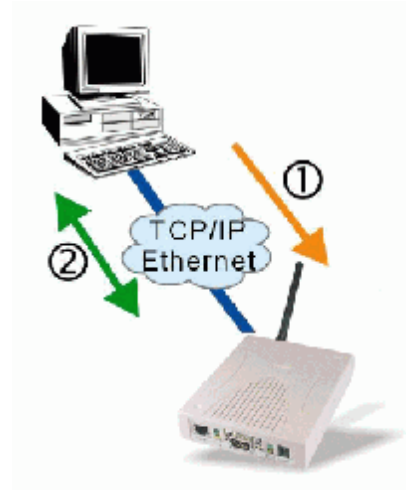
TCP Alive Check Timeout: 7 (0 - 255 min)

Inactivity Timeout: 0 (0 - 65535 ms)

OK (Write) Cancel

VI. TCP Server Mode

In TCP Server mode, SYRD245-1N-N reader provides a unique IP:Port address on a TCP/IP network. SYRD245-1N-N reader wait passively to be contacted by the host computer, allowing the host computer to establish a connection with and get data from the serial device.

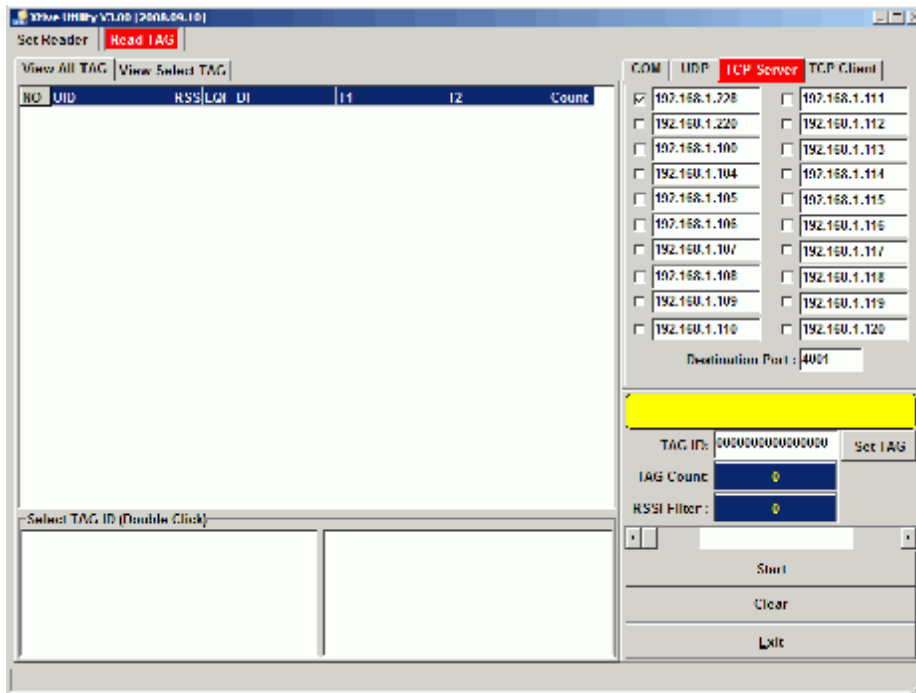


1. Setting Operating Mode

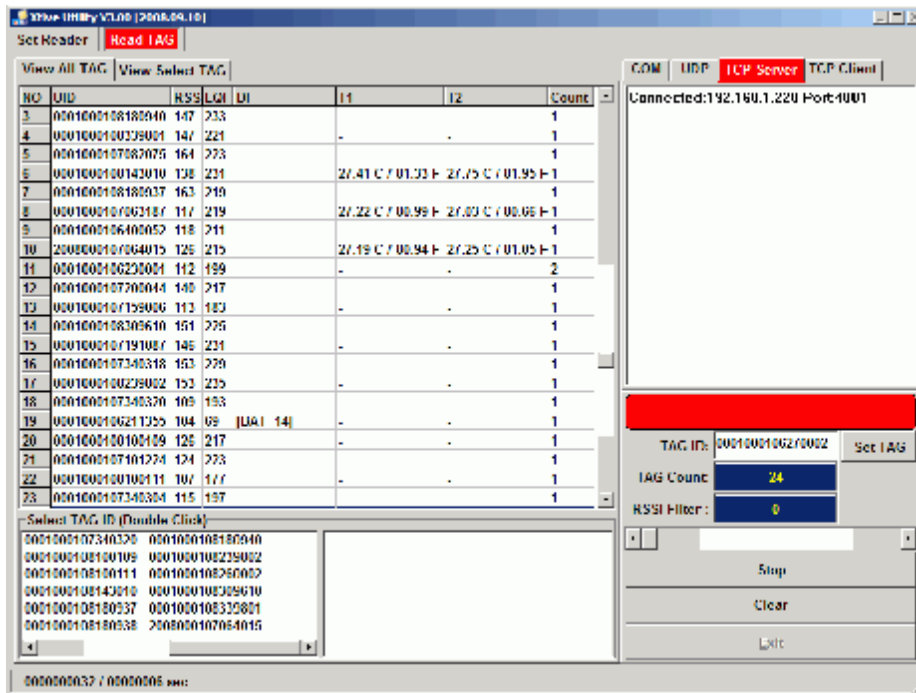
Basic	Network	Operating Mode	Accessible IPs	Password	Serial
<input checked="" type="radio"/> TCP Server Mode Local TCP Port: <input type="text" value="4001"/> Max Connection: <input type="text" value="1"/>					
<input type="radio"/> TCP Client Mode Connect Mode: <input type="text" value="Startup"/>					
<input type="checkbox"/> Destination IP 01: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 02: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 03: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 04: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="radio"/> UDP Mode Local TCP Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 01: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 02: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 03: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 04: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
Data Packing(Optional)			Miscellaneous(Optional)		
<input checked="" type="checkbox"/> Delimiter 1 <input type="text" value="0D"/> (0 - ff,Hex)			TCP Alive Check Timeout <input type="text" value="7"/> (0 - 255 min)		
<input type="checkbox"/> Delimiter 2 <input type="text" value="00"/> (0 - ff,Hex)			Inactivity Timeout <input type="text" value="0"/> (0 - 65535 ms)		
Force Tx Timeout: <input type="text" value="0"/> (0 - 65535 ms)					

Select "TCP Server Mode" and press "OK" to submit the settings.

- When you finished change operating mode, you can execute **SYRIS Xtive demo program** to read TAG.
(SYRIS Xtive CD-ROM\SYRD245-1Utility\Xtive.exe)



- Select and modify correct IP address to communicate with Reader.
(You can communicate multi-reader at the same time)



Starting read TAG will receive Tag information from reader.

4. Field Introduction:

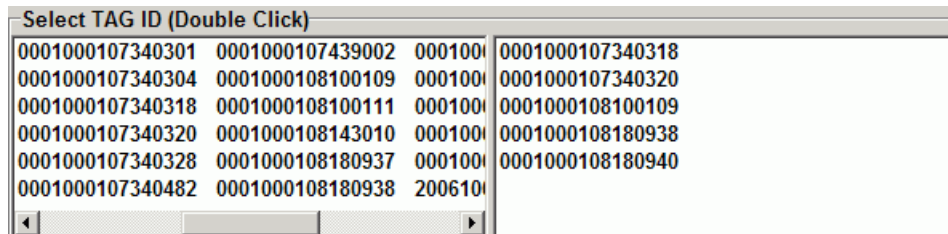
- a. UID: Tag's identification number.
- b. RSSI: Received Signal Strength Indication (0-255). Reading range and RSSI are inverse proportion.
- c. LQI: Link quality indicator (0-255).
- d. DI: TAG status and indicator.
 - [BAT] means TAG battery was low.
 - [MO] means vibration switch alarm
 - [SW] means TAG call button was clicked.
 - [SENSOR] means light sensor have detect light.
 - [START] means TAG restart.
- e. T1: Ambient temperature sensor
- f. T2: Skin temperature sensor or humidity sensor.

NOTE:

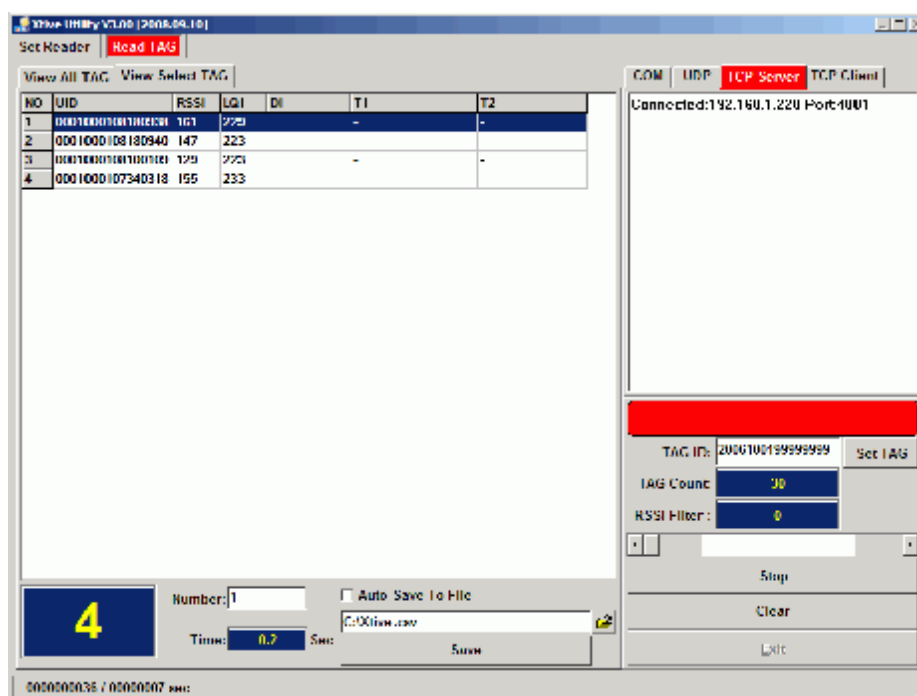
Light sensor and Temperature Sensor only for SYTAG245-TM series

Humidity sensor only for SYTAG245-HT series

5. Select TAG ID to shift the target TAG from left window to right window.

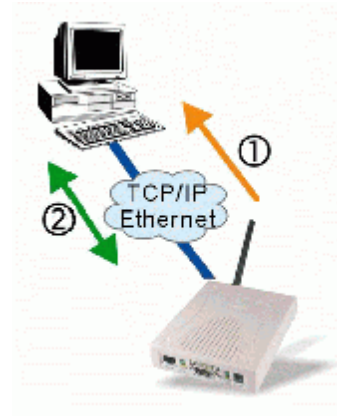


6. Select “View Select TAG” tab to get target TAG information.



VII. TCP Client Mode

In TCP Client mode, SYRD245-1N-N reader can actively establish a TCP connection to a pre-defined host computer when serial data arrives.

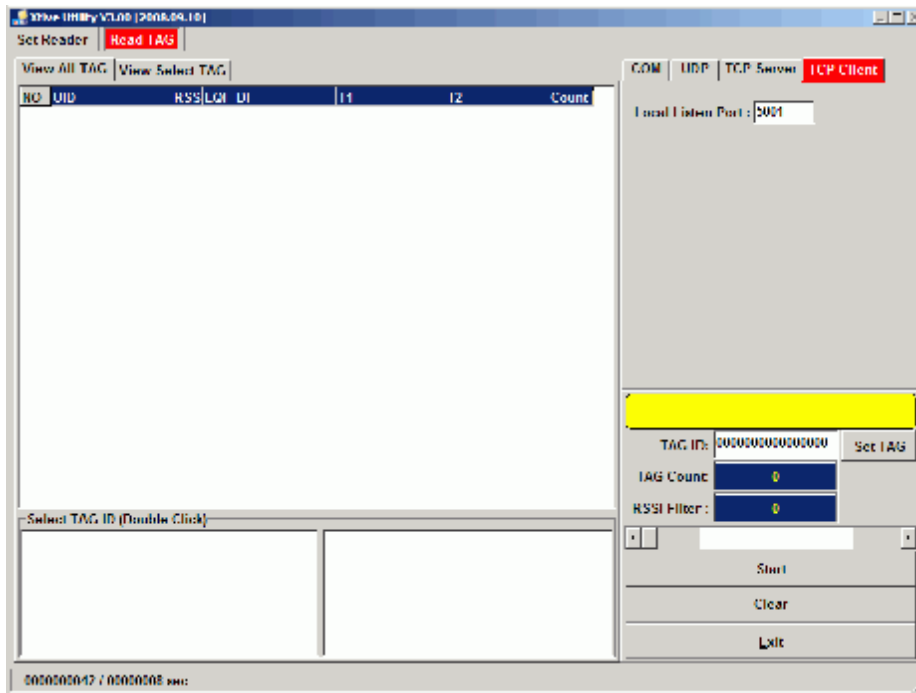


1. Setting Operating Mode

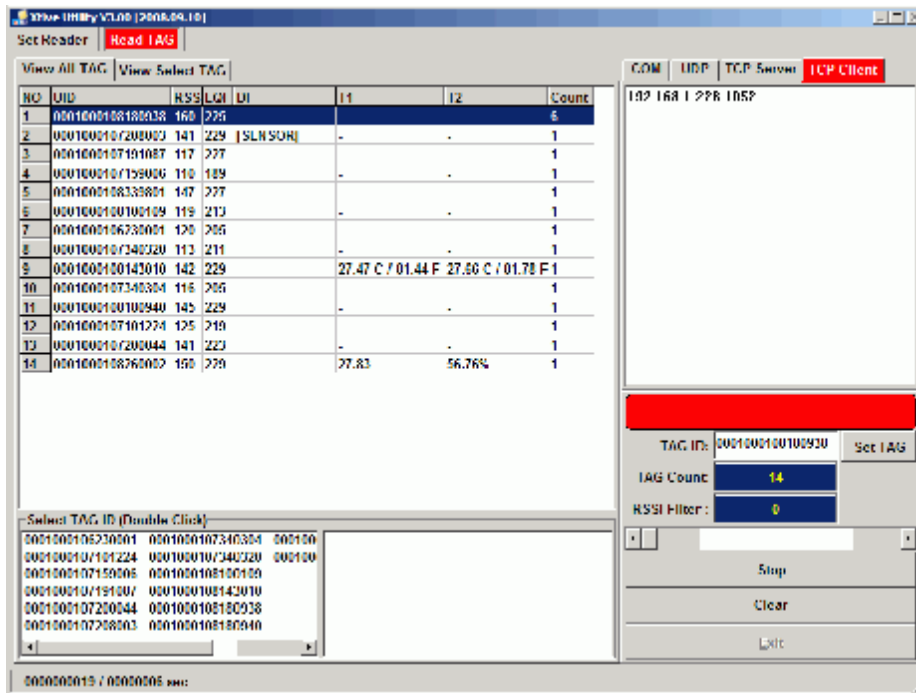
Basic	Network	Operating Mode	Accessible IPs	Password	Serial
<input type="radio"/> TCP Server Mode Local TCP Port: <input type="text" value="4001"/> Max Connection: <input type="text" value="1"/>					
<input checked="" type="radio"/> TCP Client Mode Connect Mode: <input type="text" value="Starup"/>					
<input checked="" type="checkbox"/> Destination IP 01: <input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="1"/> <input type="text" value="100"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 02: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 03: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 04: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="radio"/> UDP Mode Local TCP Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 01: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 02: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 03: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 04: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
Data Packing(Optional)			Miscellaneous(Optional)		
<input checked="" type="checkbox"/> Delimiter 1 <input type="text" value="0D"/> (0 - ff,Hex)			TCP Alive Check Timeout <input type="text" value="7"/> (0 - 255 min)		
<input type="checkbox"/> Delimiter 2 <input type="text" value="00"/> (0 - ff,Hex)			Inactivity Timeout <input type="text" value="0"/> (0 - 65535 ms)		
Force Tx Timeout: <input type="text" value="0"/> (0 - 65535 ms)					

Select "TCP Client Mode" and set up "Destination Host" IP address than press "OK" to submit the settings.

- When you finished change operating mode, you can execute [SYRIS Xtive demo program](#) to read TAG.
(SYRIS Xtive CD-ROM\SYRD245-1Utility\Xtive.exe)



- Select "TCP Client" Tab and starting read TAG will receive Tag information from reader.



VIII. UDP mode

Compared to TCP communication, UDP is faster and more efficient. In UDP mode, you can multicast data from the SYRD245-1N-N to multiple host computers, and the serial device can also receive data from multiple host computers, making this mode ideal for message display applications.

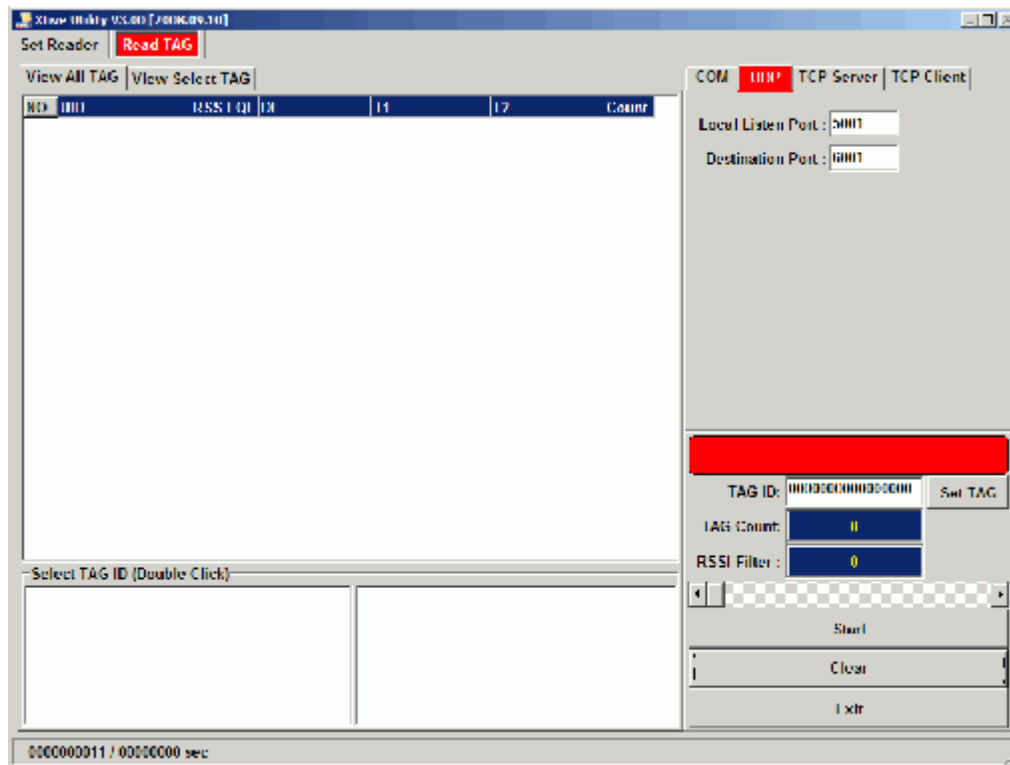


1. Setting Operating Mode

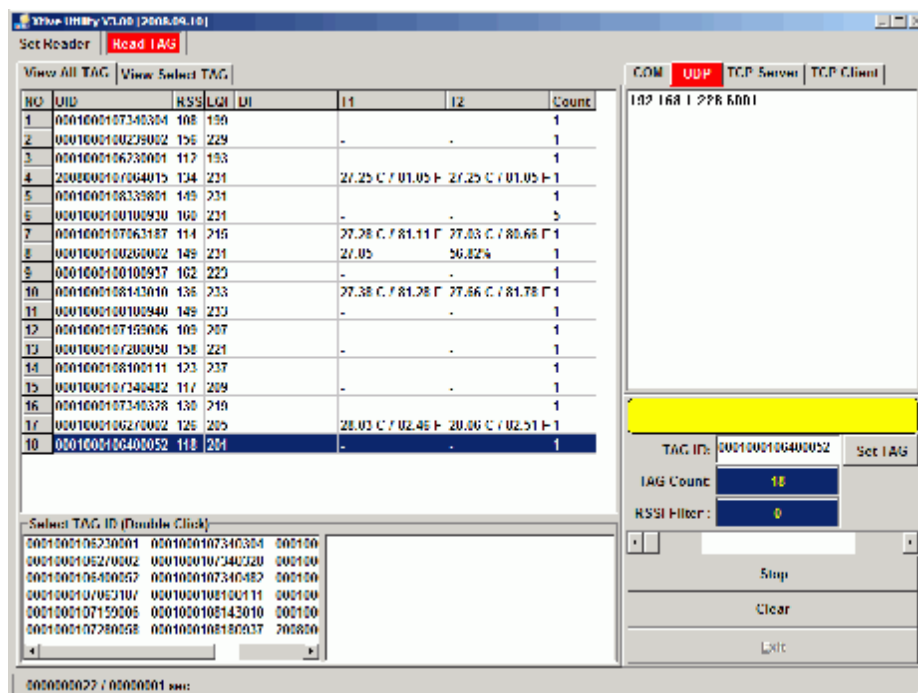
Basic	Network	Operating Mode	Accessible IPs	Password	Serial
<input type="radio"/> TCP Server Mode Local TCP Port: <input type="text" value="4001"/> Max Connection: <input type="text" value="1"/>					
<input type="radio"/> TCP Client Mode Connect Mode: <input type="text" value="Startup"/>					
<input type="checkbox"/> Destination IP 01: <input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="1"/> <input type="text" value="100"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 02: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 03: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 04: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input checked="" type="radio"/> UDP Mode Local TCP Port: <input type="text" value="6001"/>					
<input checked="" type="checkbox"/> Destination IP 01: <input type="text" value="192"/> <input type="text" value="168"/> <input type="text" value="1"/> <input type="text" value="62"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 02: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 03: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
<input type="checkbox"/> Destination IP 04: <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Port: <input type="text" value="5001"/>					
Data Packing(Optional)			Miscellaneous(Optional)		
<input checked="" type="checkbox"/> Delimiter 1 <input type="text" value="0D"/> (0 - ff,Hex)			TCP Alive Check Timeout <input type="text" value="7"/> (0 - 255 min)		
<input type="checkbox"/> Delimiter 2 <input type="text" value="00"/> (0 - ff,Hex)			Inactivity Timeout <input type="text" value="0"/> (0 - 65535 ms)		
Force Tx Timeout: <input type="text" value="0"/> (0 - 65535 ms)					

Select "UDP Mode" and "Destination" IP address than press "OK" to submit the settings.

- When you finished change operating mode, you can execute [SYRIS Xtive demo program](#) and setup communication port to read TAG.
(SYRIS Xtive CD-ROM\SYRD245-1Utility\Xtive.exe)



- Select “UDP” Tab and starting read TAG will receive Tag information from reader.



FCC Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by SYRIS Technology Corp. Could void the user's authority to operate this equipment.