

EKI-633x & EKI-136x- USDG Setup Example

Revision Date	Revision	Description	Author
April/2018	V1.0	Initial release	ICG AE Jacky.Lin

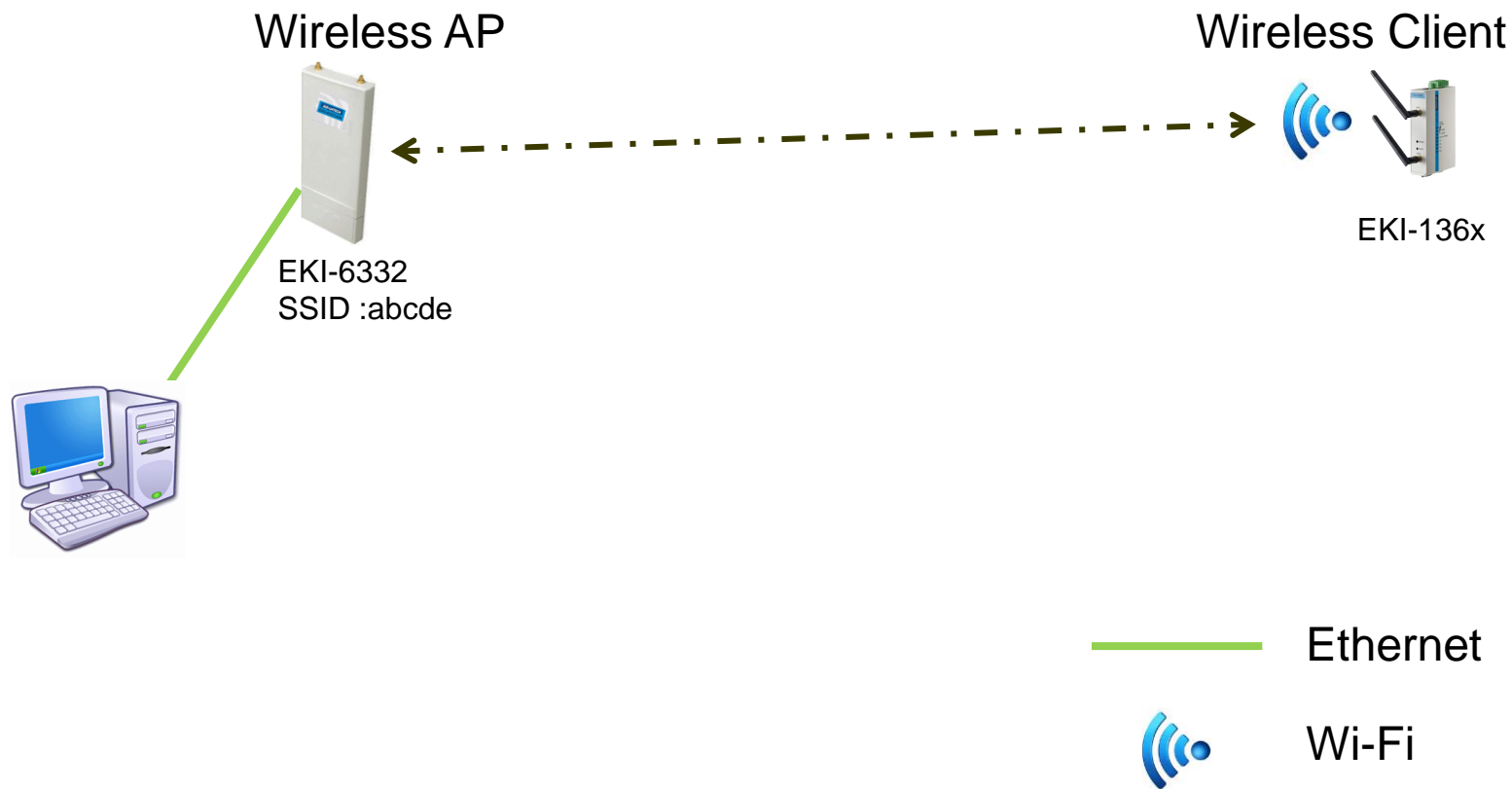
Abstract

- ❖ **Part1 :** This SOP explains how to configure the EKI-6332 & EKI-136x-AE to build up the wireless connection
- ❖ **Part 2:** This SOP also shows how to set the USDG Client/Server mode on EKI-136x-AE for collecting data from the SCADA PC .
- ❖ **Related products:**
EKI-6332, EKI-136x-AE
- ❖ **Requirement:** EKI-6332, EKI-136x-AE, TestView tool (Third party tool)

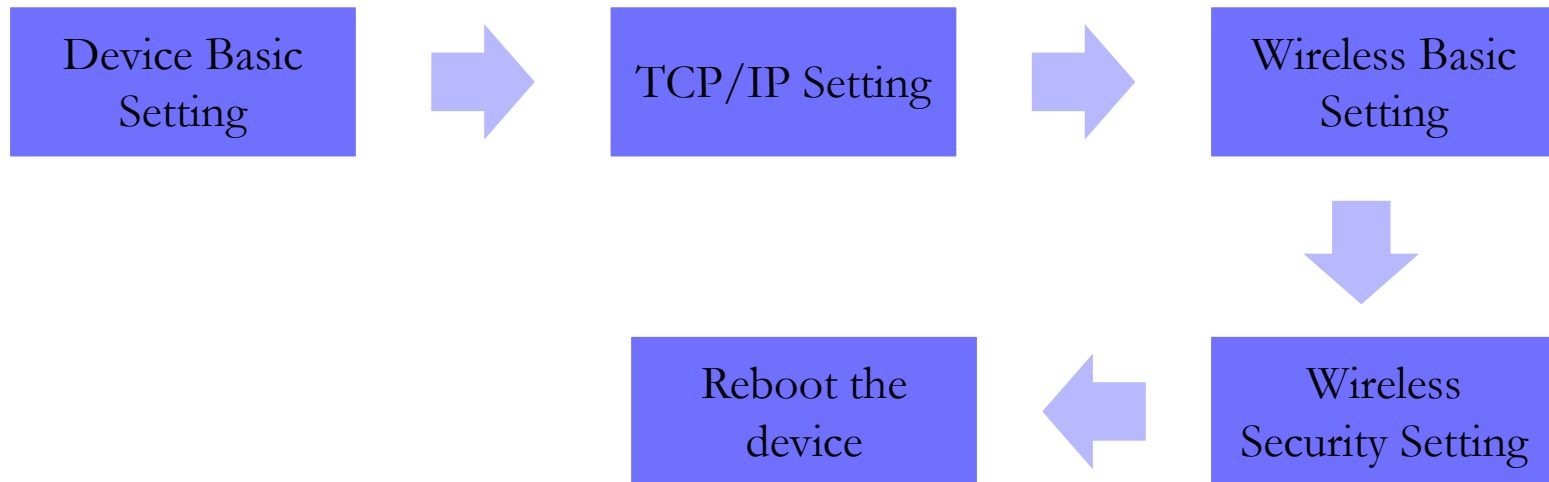


Wi-Fi connection Setup Between EKI-6332 & EKI-136x-AE

EKI-6332GN --- EKI-136x wireless connection setting Topology



EKI-6332GN Configuration Flow chart



Device Basic Setting

ADVANTECH Industrial Wireless EKI-6332GN-AE

Status

System

Wireless

Management

Tools

Basic Settings

Network Settings

Time Settings

RADIUS Settings

Network Settings

This page configures the IP address, subnet mask, DHCP, and other parameters for your local area network that is connected to the LAN port of the device.

Basic Settings

Network Mode:

Bridge

Spanning Tree:

☐ Enabled ☒ Disabled

STP Forward Delay:

1 (1~30 seconds)

☐ Enable 802.1Q VLAN

Management VLAN ID:

0 (0~4094)

Use Default "Bridge" mode

IP Address Assignment

☐ DHCP Client

☒ Static IP

IP Address:

192.168.1.1

Subnet Mask:

255.255.255.0

Gateway IP Address:

0.0.0.0

TCP/IP Setting

ADVANTECH Industrial Wireless EKI-6332GN-AE

Status

System

Wireless

Management

Tools

Basic Settings

Network Settings

Time Settings

RADIUS Settings

Basic Settings

Network Mode:

Spanning Tree: ☐ Enabled ☒ Disabled

STP Forward Delay: (1~30 seconds)

☐ Enable 802.1Q VLAN

Management VLAN ID: (0~4094)

IP Address Assignment

☐ DHCP Client

☒ Static IP

IP Address:

Subnet Mask:

Gateway IP Address:

DNS 1:

DNS 2:

IP Setting

Apply

Cancel

Wireless Basic Setting

ADVANTECH Industrial Wireless EKI-6332GN-AE

Status

System

Wireless

Management

Tools

Basic Settings ✕

Profile Settings

Advanced Settings

Traffic Shaping

Access Control

WDS Settings

Basic Settings

Use this page to change the wireless mode as well as configure any associated wireless network parameters.

☐ Disable Wireless LAN Interface

Operation Mode:

AP

Site Survey

Set to AP mode
Give SSID

SSID:

abcde

(more...)

Broadcast SSID:

☒ Enabled

☐ Disabled

802.11 Mode:

802.11B/G/N

Channel Mode:

20 MHz

Channel:

2462MHz (11)

Select channel based on site
survey result.

Extension Channel:

None

Data Rate:

Auto

HT Protect:

☐ Enabled

☒ Disabled

Antenna Gain:

0

3

0 dBi

Adjust the value as
same as your Antenna
gain
(default antennas 5dBi)

Output Power:

12

15

15 dBm

Adjust the output power

Enabling an Intelligent Planet

ADVANTECH

Wireless Basic Setting

ADVANTECH Industrial Wireless EKI-6332GN-AE

Status

System

Wireless

Management

Tools

Basic Settings

Profile Settings

Advanced Settings

Traffic Shaping

Access Control

WDS Settings

Profile Settings

Define each VAP's attribute.

Select the security profile

#	Enabled	Profile Name	SSID	Security	VLAN ID
1	<input checked="" type="checkbox"/>	Profile1	abcde	WPA2-PSK	0
2	<input type="checkbox"/>	Profile2	Wireless	Open System	0
3	<input type="checkbox"/>	Profile3	Wireless	Open System	0
4	<input type="checkbox"/>	Profile4	Wireless	Open System	0
5	<input type="checkbox"/>	Profile5	Wireless	Open System	0
6	<input type="checkbox"/>	Profile6	Wireless	Open System	0
7	<input type="checkbox"/>	Profile7	Wireless	Open System	0
8	<input type="checkbox"/>	Profile8	Wireless	Open System	0

Apply

Reset

Enabling an Intelligent Planet

ADVANTECH

WiFi Security Setting

ADVANTECH Industrial Wireless EKI-6332GN-AE

Status

System

Wireless

Management

Tools

Basic Settings

Profile Settings »

Advanced Settings

Traffic Shaping

Access Control

WDS Settings

Define the VAP's basic settings and security settings.

Basic Settings

Profile Name:

SSID:

Broadcast SSID: ☒ Enabled ☐ Disabled

Wireless Separation: ☐ Enabled ☒ Disabled

WMM Support: ☒ Enabled ☐ Disabled

IGMP Snooping: ☒ Enabled ☐ Disabled

☐ Max. Station Num: (1-32)

Kick STA RSSI: (1~96)

Security Settings

Network Authentication:

Data Encryption:

WPA Passphrase:

Security setting

Reboot the Device

AP_192.168.1.1

Status

System

Wireless

Management

Tools

Password Settings

Firmware Upgrade

Configuration File

User Certificates

Remote Services

SNMP Settings

Configuration File

This page allows you to save current settings to a file or load the settings from the file which was saved previously. You may also reset the current configuration to factory default or reboot the device.

Save Settings to File:

Save...

Load Settings from File:

選擇檔案 未選擇任何檔案

Reset Settings to Default:

Reset

Reboot The Device:

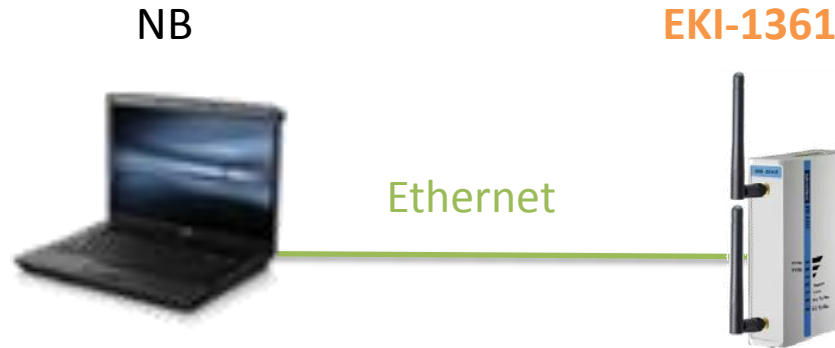
Reboot

**Reboot the device
and wait for starting
the WiFi service**

Youtube 登入 Google 地圖 Facebook ICIBA Advantech AD employee AD mail Yahoo 奇摩 Agile Product Lifec...

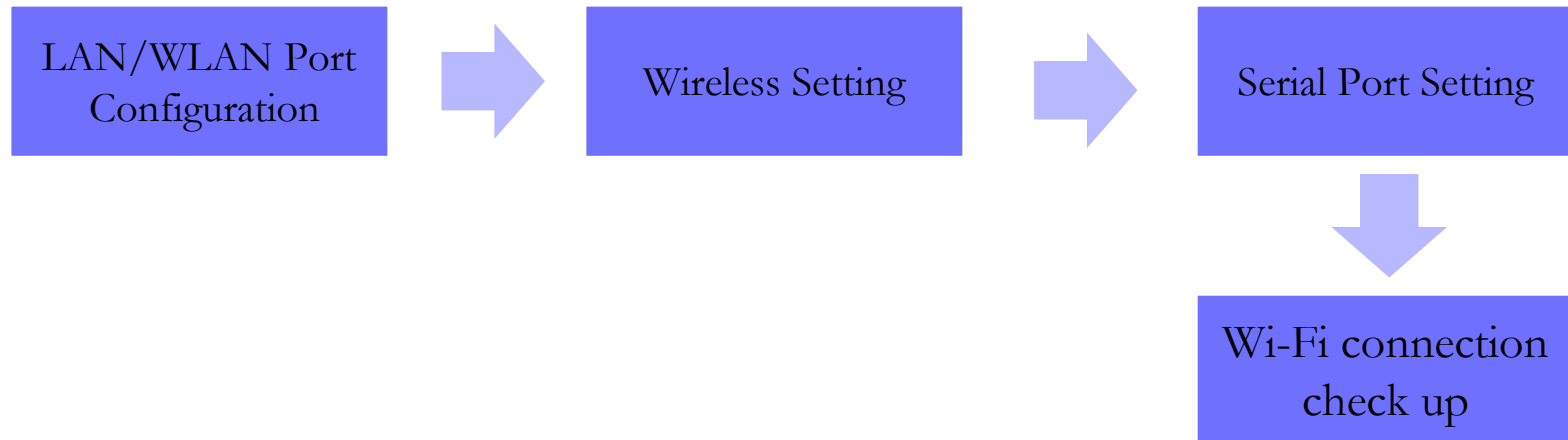
This device has been reboot, you have to login again.
Please wait for 36 seconds before attempting to access the device again...

EKI-1361 Setting flow chart



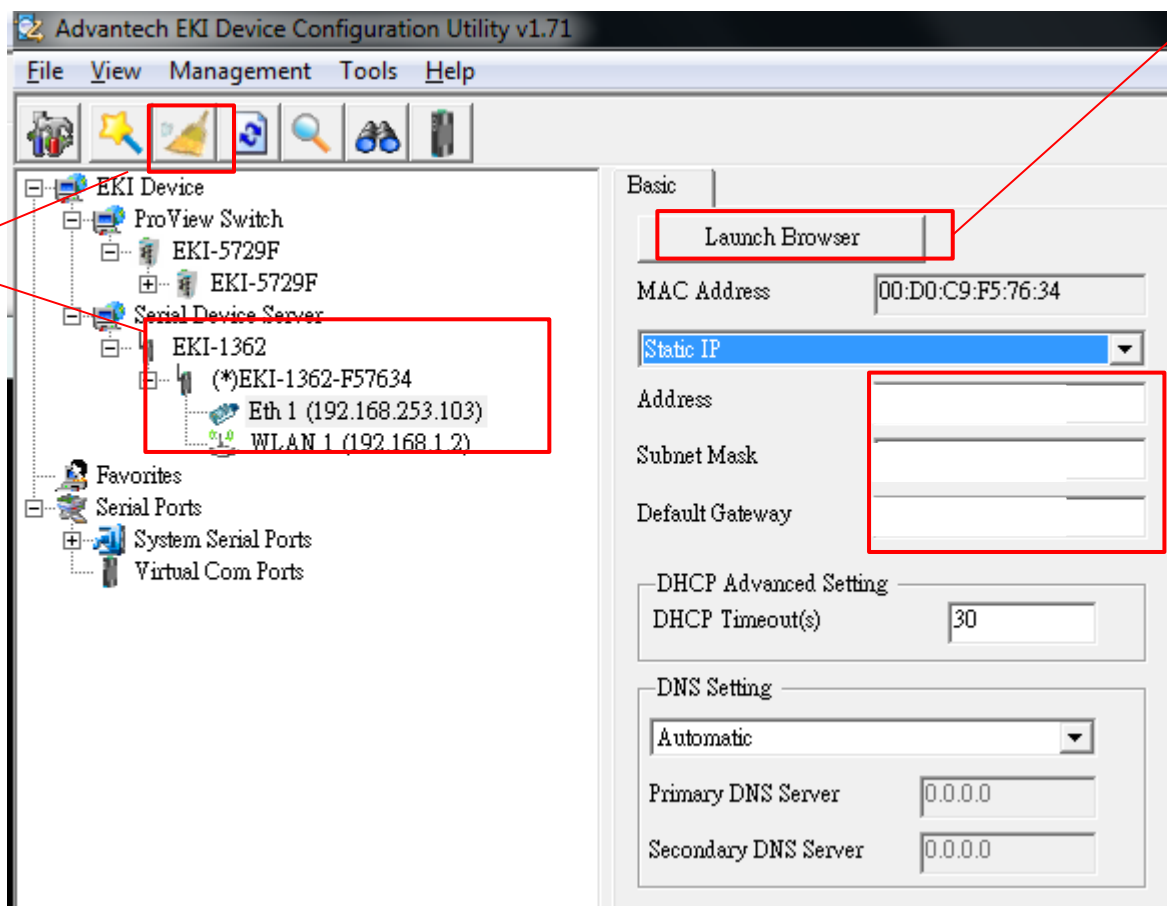
Step 1 : Connect the EKI-1361 via Ethernet cable

Step 2 : follow the flow chart to set up EKI-1361 step by step.



LAN port configuration

1. EKI Utility will be able to scan the EKI-136x



3. Click on Launch browser after "reboot". To Enter port configuration

2. Config LAN IP to be the same subnet as the PC.

Wireless LAN (WLAN) Configuration

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Home

- System
- Ethernet Configuration
 - Eth 1
 - Wlan 1
- Wireless Configuration
 - Wlan 1
- Port Configuration
- Monitor
- Alarm
- Tools
- Management

Wlan1 Configuration

Mode	Static IP
MAC Address	00-D0-C9-F5-76-35
IP Address	192.168.1.2
Subnet Mask	255.255.255.0
Default Gateway	
DNS	<input checked="" type="radio"/> Automatic <input type="radio"/> Specific
Current Status	
IP 1	192.168.1.2

Save

Set static IP for the WLAN interface

Click save on every config change,
Note: config will only be activated after device reboot

Wireless basic setting

ADVANTECH iCom www.advantech.com

Home
System
Ethernet Configuration
 Eth 1
 Wlan 1
Wireless Configuration
 Wlan 1
Port Configuration
Monitor
Alarm
Tools
Management

Wireless Configuration

Mode	<input checked="" type="radio"/> Client <input type="radio"/> Ad-hoc
SSID	abcde Site survey
Country code	United States ▾
Channel	11 - 2.462 GHz ▾
Encryption	WPA/WPA2-Personal ▾
WPA key	1234567890

Advanced Wireless Setting

RTS threshold	2347
Fragment threshold	2346
Preamble	<input checked="" type="radio"/> Short <input type="radio"/> Long
Roaming	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

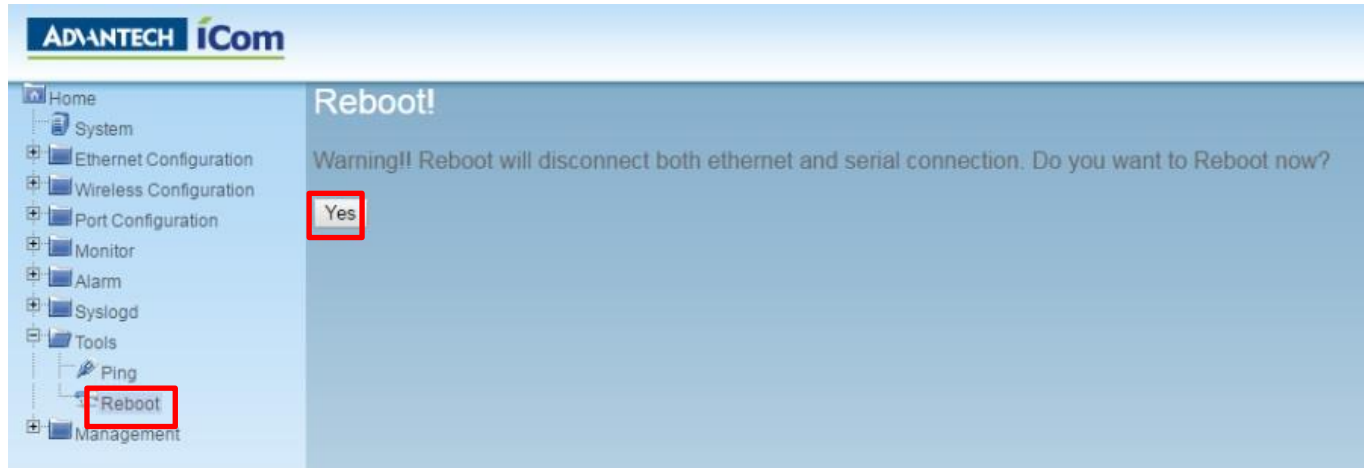
Set it to Client mode.

Make sure the SSID & encryption type & password is as same as AP

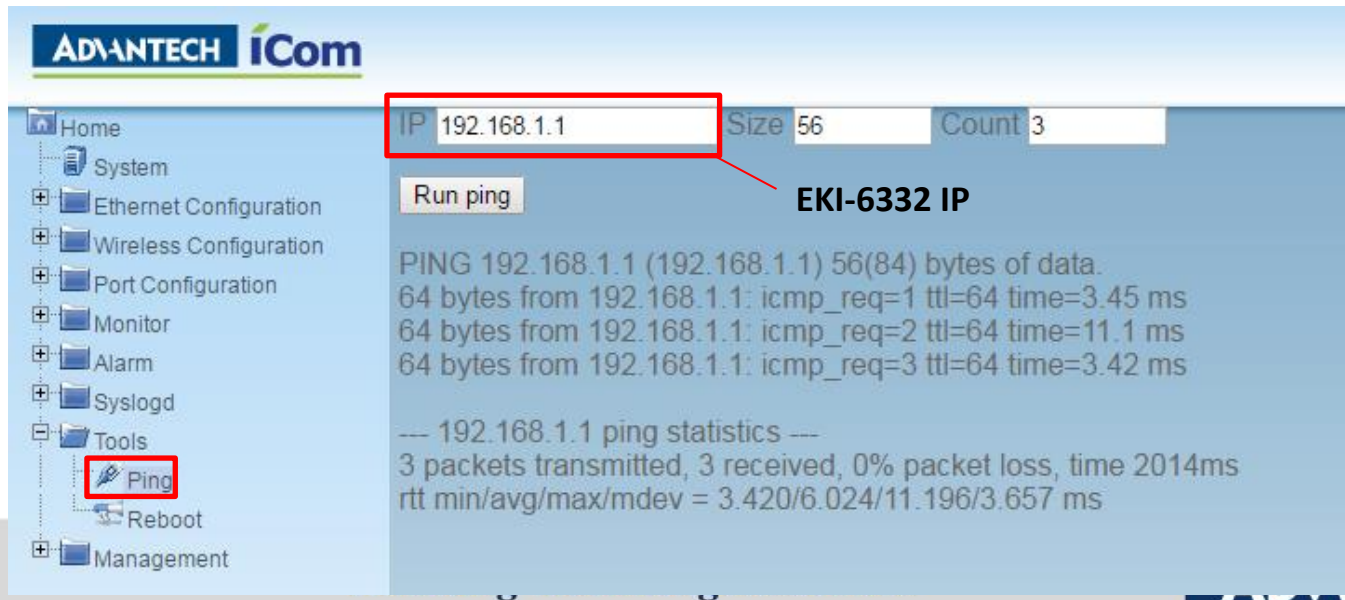
Save and reboot.

Reboot and Run the ping test

Step 1 :Reboot device after all setting done



Step 2 : ping EKI-6332 to make sure the wireless connection is established



Wi-Fi connection check up

You may also check the Wi-Fi signal for AP/client on Web GUI

EKI-6332

SystemWirelessManagementTools

InformationConnectionsStatisticsARP TableBridge Table

Association List

This table shows the MAC Address, 802.11 Mode, Signal Strength and Connected Time for each associated device(s).

#	Interface	MAC Address	802.11 Mode	Signal Strength	Connected Time	Action
1	VAP1	00:d0:c9:f7:48:f0	802.11B/G/N	-32 dBm	24m:49s	Kick

EKI-1361

HomeSystemEthernet ConfigurationWireless ConfigurationWlan 1Port ConfigurationPort 1MonitorPort 1Wlan 1AlarmSyslogToolsManagement

Wireless Status

SettingStatistic

Wireless

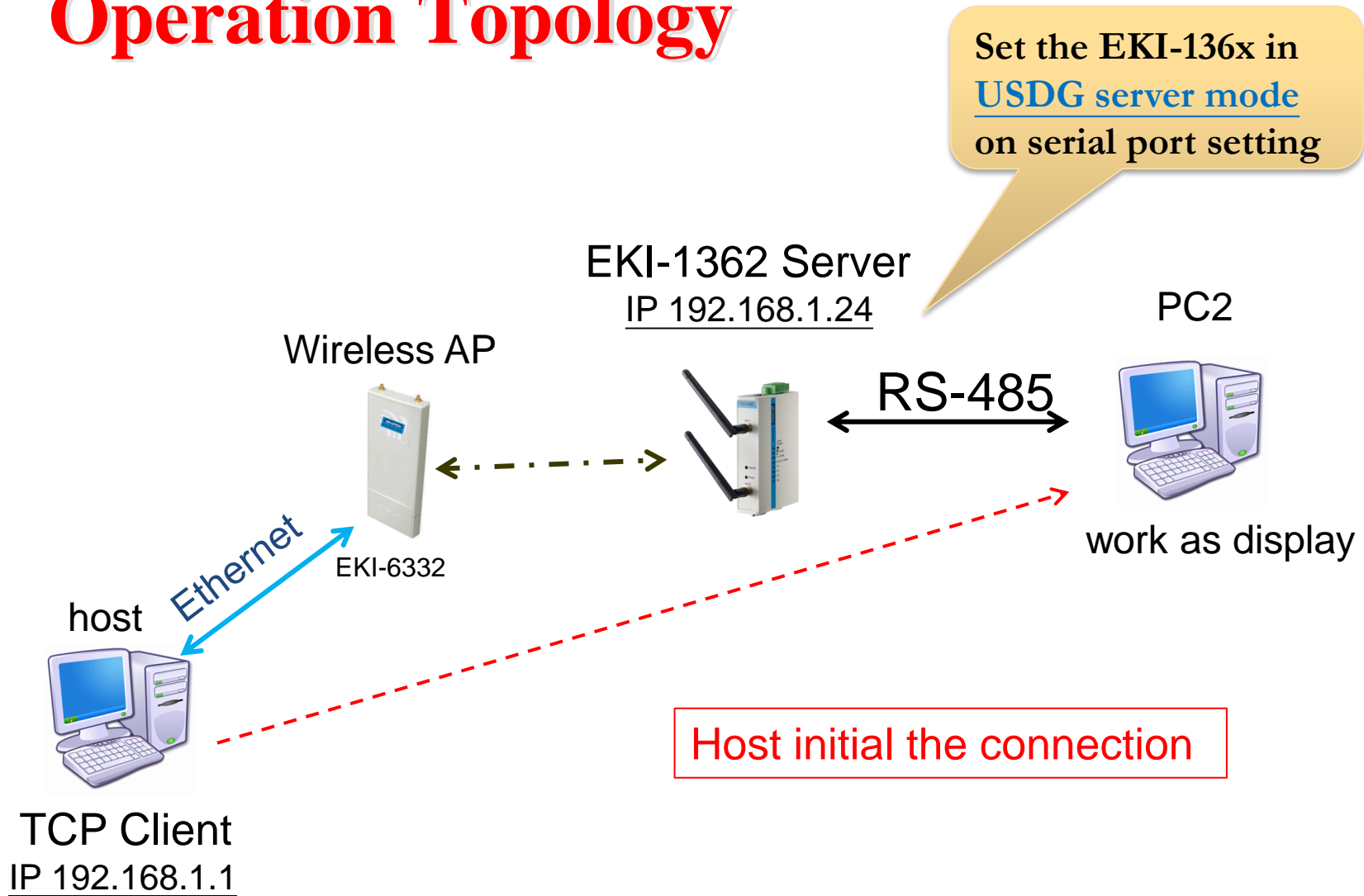
Mode	Client
SSID	testing
BSSID	00:19:70:C1:1E:5C
Channel/Frequency	2.437 GHz (Channel 6)
Bitrate	72.2 Mbps
Tx power	18
Signal Level	-28
RSSI	82

WLAN status

IP address	192.168.1.2
Tx packets	814
Tx bytes	66626
Rx packets	1106
Rx bytes	119449

Test USDG Server Mode by TestView

USDG Server Mode Operation Topology



Serial Port Setting (1/2)

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 - Wlan 1
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 - Port 1**
 - Port 2
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- Tools
- Management

Port 1 configuration

Basic	Operation	Advanced
Type	RS485	
Baud Rate	9600	
Parity	None	
Data Bits	8	
Stop Bits	1	
Flow Control	None	

Save

Com port setting

Click save on every config change, but config will only be activated after device reboot

Serial Port mode setting (2/2)

USDG server mode

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 - Wlan 1
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- Management

Port 1 configuration

Basic	Operation	Advanced
Mode		USDG Data Mode
Protocol		TCP
Data Idle Timeout(s)		60
Data Listen Port		5300
Command Listen Port		5400
Response Timeout(ms)		0
Frame Break(ms)		0
TCP Mode Extra Options		
Auto Connect To Peer IP		<input type="checkbox"/>
Port Data Buffering		
Media		NONE
When Data Full		Stop
Maximum Buffer Size		0 (Max: 1024, Unit: MiB)
Pack conditions (Packet sent immediately when reach 1024 Bytes)		
<input type="checkbox"/> By size	Bytes(1 ~ 1024 Bytes)	
<input type="checkbox"/> By interval	ms(1 ~ 60000 ms)	
<input type="checkbox"/> By end-character	Char Format HEX Char Value	
<input type="checkbox"/> By character-timeout		
Peer for Receiving Data		
Peer Number		0
Save		

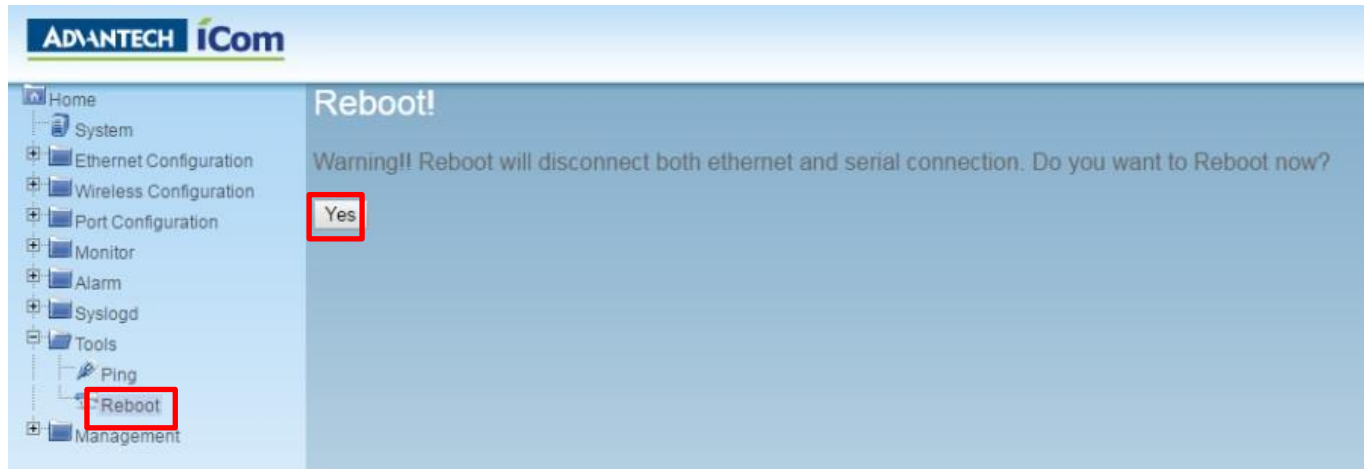
USDG Data Mode

Device server will listen to TCP port 5300

Click save on every config change, but config will only be activated after device reboot

Reboot the EKI-136x device

Step 1 :Reboot device after all setting done

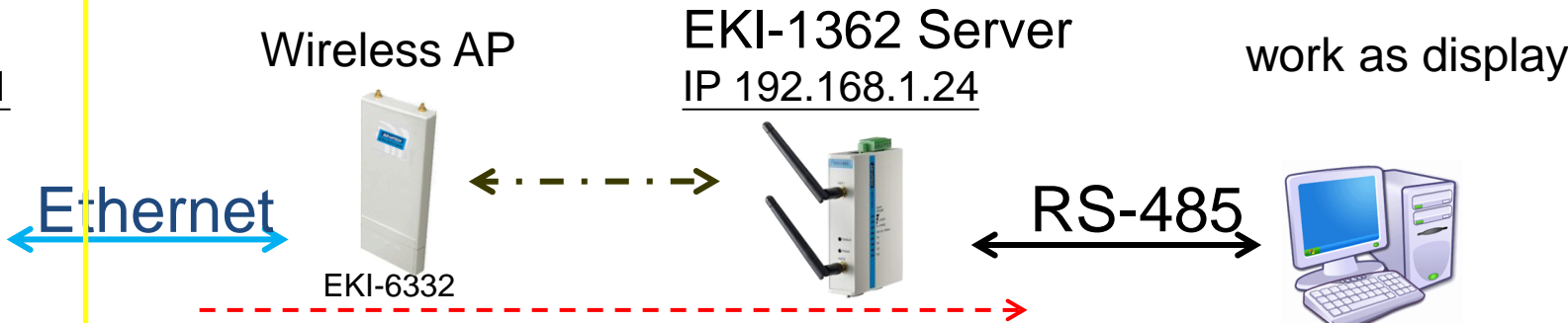


USDG Server Mode

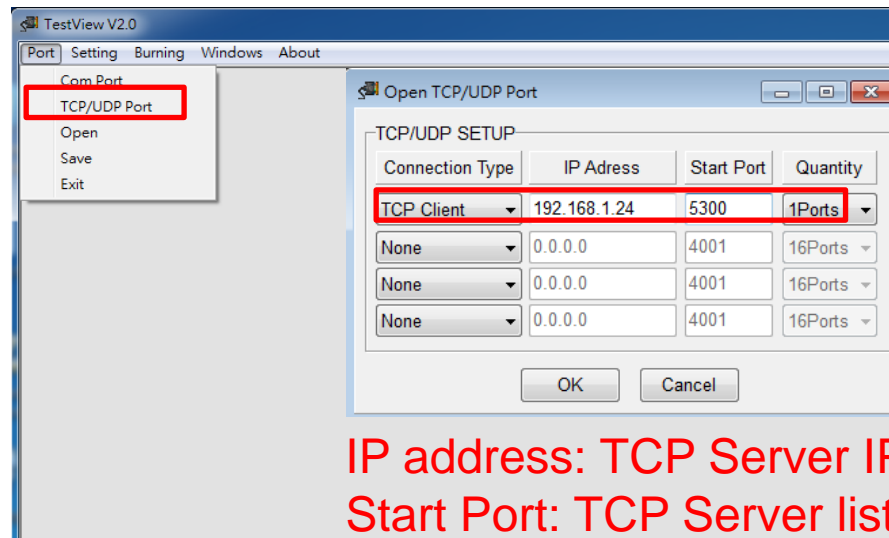
Test by TestView

1st.

TCP Client
IP 192.168.1.1
host



use TestView to create a TCP Client



IP address: TCP Server IP (device server)
Start Port: TCP Server listen Port (device Server)

USDG Server Mode

Test by TestView

TCP Client
IP 192.168.1.1
host



Ethernet

Wireless AP



EKI-6332



EKI-1362 Server
IP 192.168.1.24

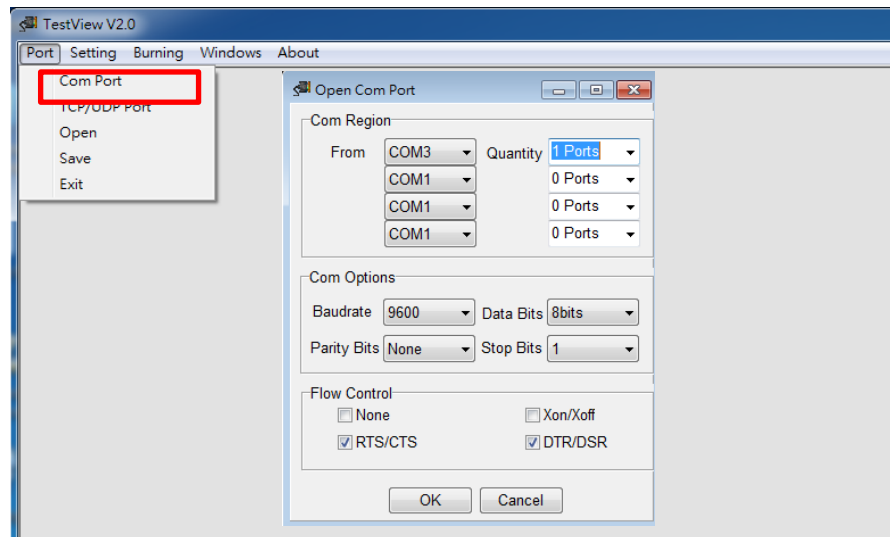


RS-485

2nd.
work as display



use TestView to create a COM port



TCP Client
IP 192.168.1.1

host



Wireless AP



EKI-6332

EKI-1362 Server
IP 192.168.1.24



work as display



Ethernet

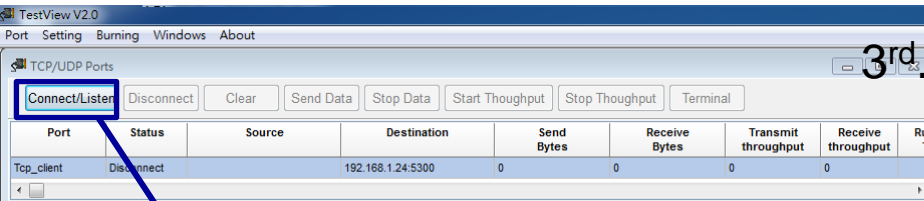


RS-485



use TestView to create a TCP Client

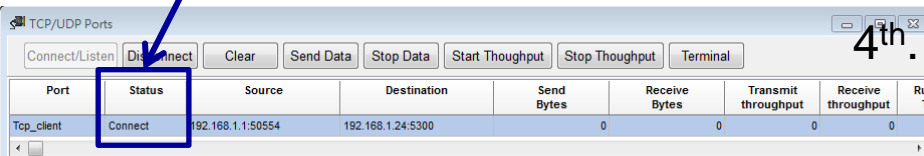
use TestView to create a COM port



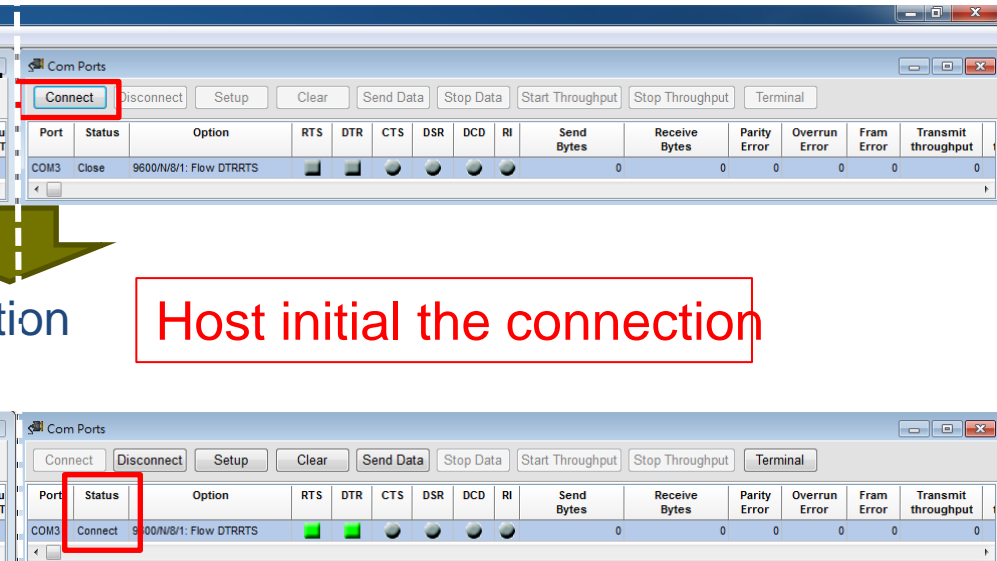
3rd.



Press Connect to initial the connection



4th.



Host initial the connection

TCP Client
IP 192.168.1.1

host



Wireless AP



EKI-6332

EKI-1362 Server
IP 192.168.1.24



work as display



Ethernet



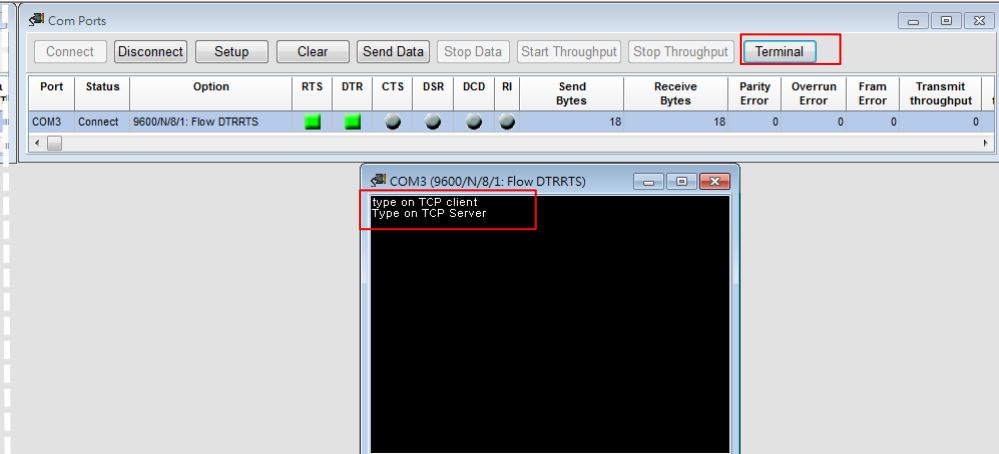
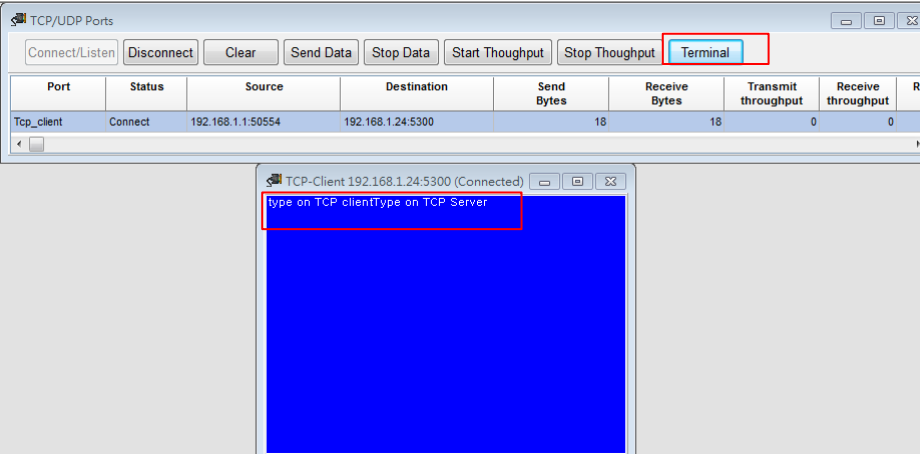
RS-485



use TestView to create a TCP Client

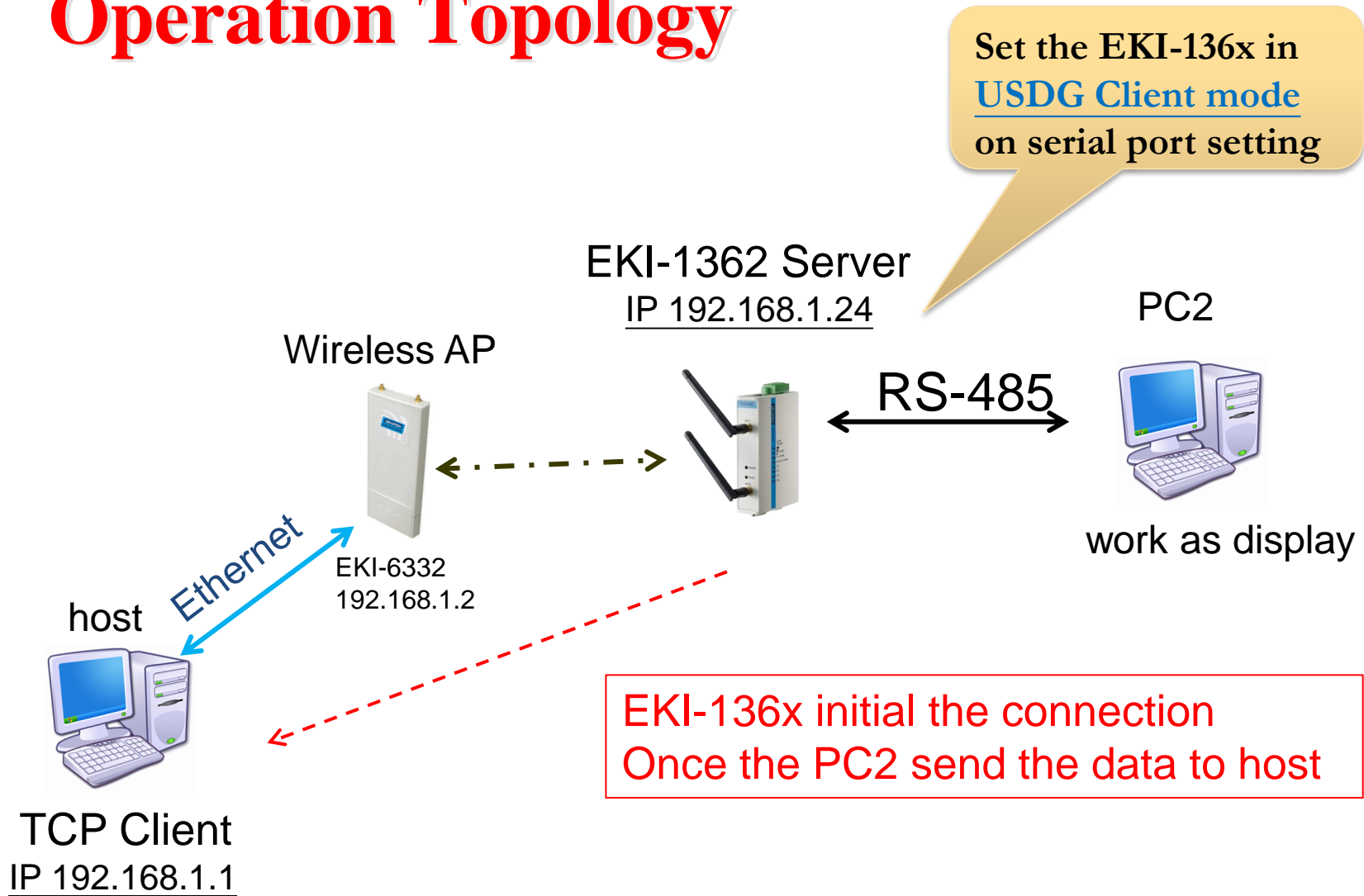
use TestView to create a COM port

after starting connection, data can be sent by both side



Test USDG Client Mode by TestView

USDG Client Mode Operation Topology



Serial Port Setting (1/2)

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 - Wlan 1
- Port Configuration
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Port 1 configuration

Basic	Operation	Advanced
Type	RS485	
Baud Rate	9600	
Parity	None	
Data Bits	8	
Stop Bits	1	
Flow Control	None	

Save

Com port setting

Click save on every config change, but config will only be activated after device reboot

Serial Port mode setting (2/2)

USDG client mode

The screenshot displays the 'Port 1 configuration' window with the 'Advanced' tab selected. The 'Mode' is set to 'USDG Data Mode'. The 'Protocol' is 'TCP'. The 'Data Idle Timeout(s)' is 60, 'Data Listen Port' is 5300, 'Command Listen Port' is 5400, 'Response Timeout(ms)' is 0, and 'Frame Break(ms)' is 0. The 'TCP Mode Extra Options' section includes 'Auto Connect To Peer IP' (unchecked). The 'Port Data Buffering' section has 'Media' set to 'NONE' and 'When Data Full' set to 'Stop'. The 'Pack conditions (Packet sent immediately when reach 1024 Bytes)' section has four options: 'By size' (unchecked), 'By interval' (unchecked), 'By end-character' (unchecked), and 'By character-timeout' (unchecked). The 'Peer for Receiving Data' section has 'Peer Number' set to 1. The 'LocalPort' is 0, 'Peer IP address 1' is 192.168.1.1, and 'Port 1' is 5000. The 'Save' button is at the bottom left.

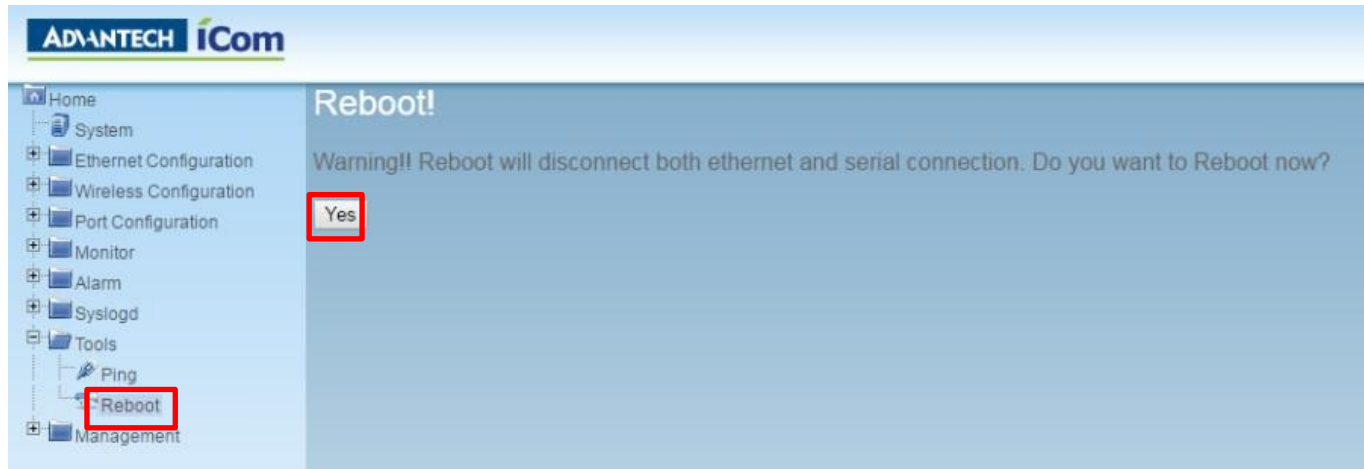
Enter "0". Then, EKI will use an random TCP port to build up connection to Host PC

USDG Data Mode

Host's IP and TCP port

Reboot the EKI-136x device

Step 1 :Reboot device after all setting done



USDG Client Mode

Test by TestView

1st.

TCP Server
IP 192.168.1.1
port 5000
host



Ethernet

Wireless AP



EKI-1362 Client
IP 192.168.1.24

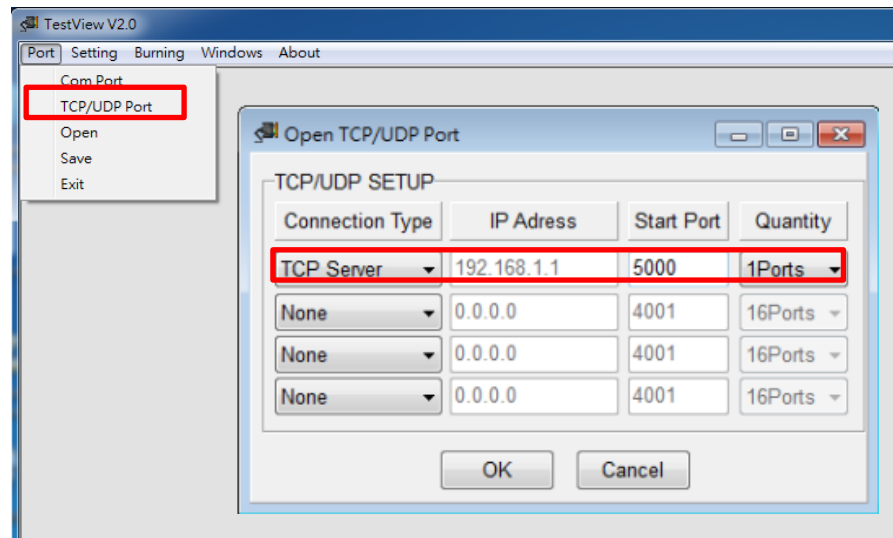


PC2 work as
display



RS-485

use TestView to create a TCP server



USDG Server Mode

Test by TestView

TCP Server
IP 192.168.1.1
port 5000
host



Ethernet

Wireless AP



EKI-6332

EKI-1362 Client
IP 192.168.1.24

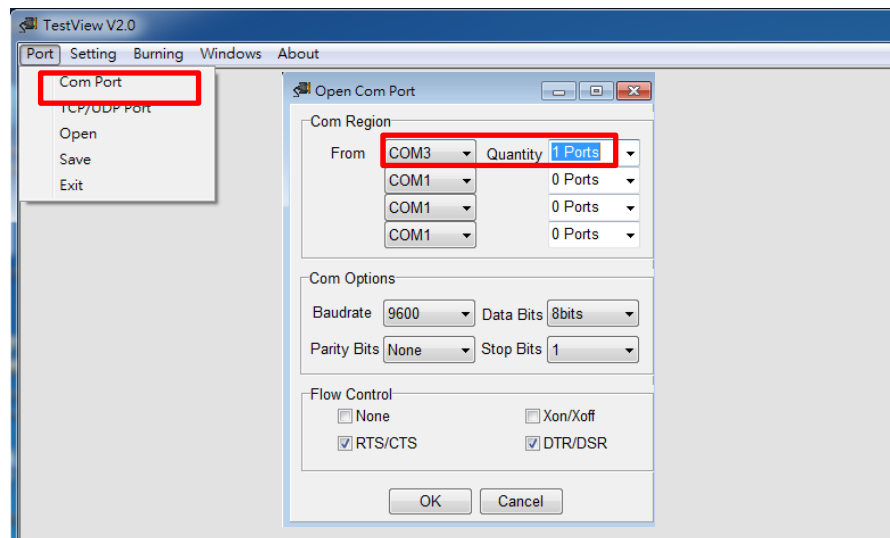


PC2 work as
display



RS-485

use TestView to create a COM Port on PC2



TCP Server
IP 192.168.1.1
port 5000
host



Wireless AP



Ethernet

EKI-1362 Client
IP 192.168.1.24



PC2 work as
display

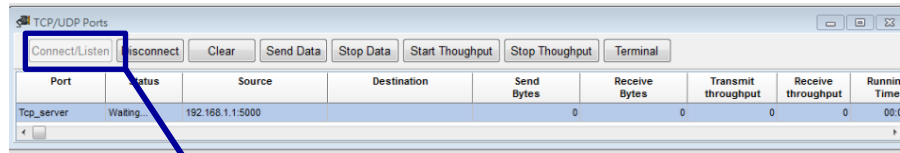
RS-485



use TestView to create a TCP Client

use TestView to create a COM port

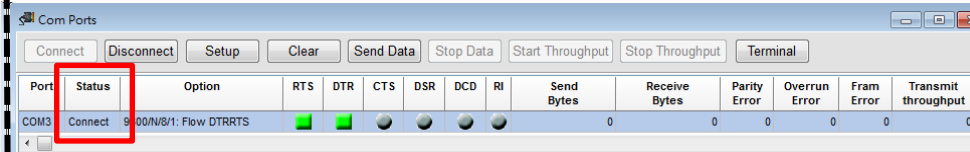
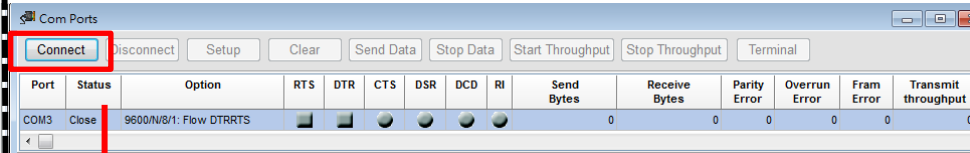
3rd.



Press "Connect button" and
See the TCP Server is waiting for connection



4th.



TCP Server
IP 192.168.1.1
port 5000
host



Ethernet

Wireless AP



EKI-6332

EKI-1362 Client
IP 192.168.1.24



PC2 work as
display

RS-485



Once the PC2 starting sending data, EKI will make the connection to Host PC

TestView V2.0

Port Setting Burning Windows About

TCP/UDP Ports

Connect/Listen Disconnect Clear Send Data Stop Data Start Throughput Stop Throughput Terminal

Port	Status	Source	Destination	Send Bytes	Receive Bytes	Transmit throughput	Receive throughput	Run Time
Tcp_server	Connect	192.168.1.1:5000	192.168.1.24:37257	0	5	0	0	00

TCP Server: 192.168.1.1:5000 (Connected)

11111

Receive the data

TestView V2.0

Port Setting Burning Windows About

Com Ports

Connect Disconnect Setup Clear Send Data Stop Data Start Throughput Stop Throughput Terminal

Port	Status	Option	RTS	DTR	CTS	DSR	DCD	RI	Send Bytes	Receive Bytes	Parity Error	Overrun Error	Fram Error	Transmit throughput	Re thro
COM3	Connect	9600/N/8/1: Flow DTRRTS							5	0	0	0	0	0	0

COM3 (9600/N/8/1: Flow DTRRTS)

11111

Key the data



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