UA-220 User Manual

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Security notice

Important! Before the product is started, please read the safety and compatibility information of this product.

IMPORTANT!

See Compliance and Safety information for the product before connecting to the supply.

Environmental protection

This product meets the design requirements on environmental protection, product storage, use, and disposal shall comply with relevant national laws, regulations, requirements

Preface

Location Anchor is a kind of anchor based on UWB manufactured by Woxu Wireless Co.,Ltd., which is for human and goods indoor location with high precision. This document introduces the method to use and configure the anchor.

Contents： Reader, Appointment , Technical support

Reader

This manual is mainly applicable to the following engineers:

0.   Students and teachers and developers
0.   Engineer

Appointment

The book also uses a variety of eye-catching signs to indicate that in the operation of the process should pay special attention to the place, the significance of these signs are as follows:

Attention	Use Only Power Supplies listed in the user instructions Use only power adaptor model UES12LZ supplied by UE Electronic The improper operation may result in loss of data or damage to equipment, which should be paid attention to in the operation.
Description	Description of the operation of the contents of the necessary complement and description

Technical Support

When you are installing or using this product, please contact me directly in accordance with the contact information provided in this document.

AT	BE	CY	CZ	DK	EE	FI
FR	DE	EL	HU	IE	IT	LV
LT	LU	MT	NL	PL	PT	SK
SI	ES	SE	UK	BG	RO	HR

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IMPORTANT NOTE:

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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Note: The operators should cease operation when the harmful Interference occurs to other users.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

This equipment only be operated indoors. Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious legal penalties.

This device may not be employed for the operation onboard an aircraft, a ship or a satellite is prohibited.

CONTENT

1   Configuration

1.1   WEB

Web information in default is as below:

Device information list

	Device information	note
IP address	192.168.1.9	Changeable
User name	woxuwireless	NOT Changeable
Key	woxuwireless	Changeable

Attention
1.   If you change the key, please save the key, if you really forgot it, please contact us or your seller.
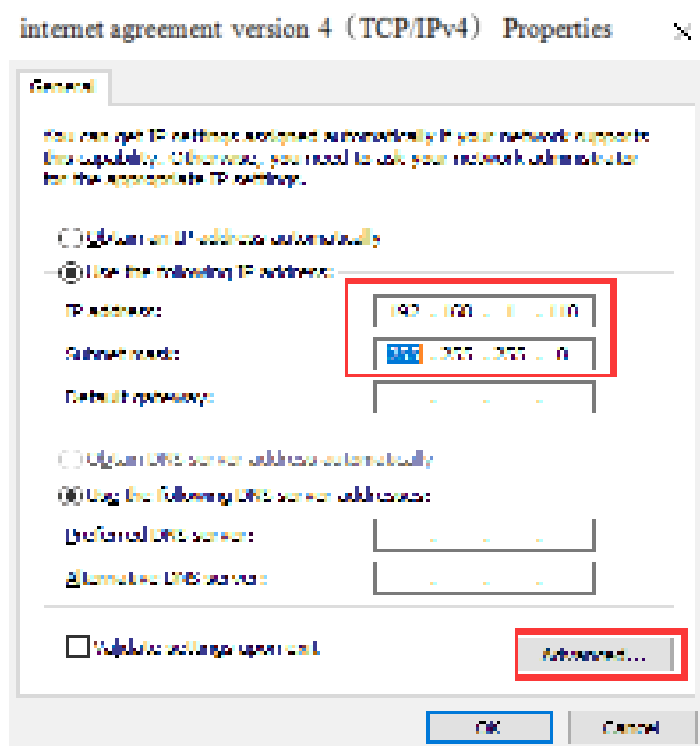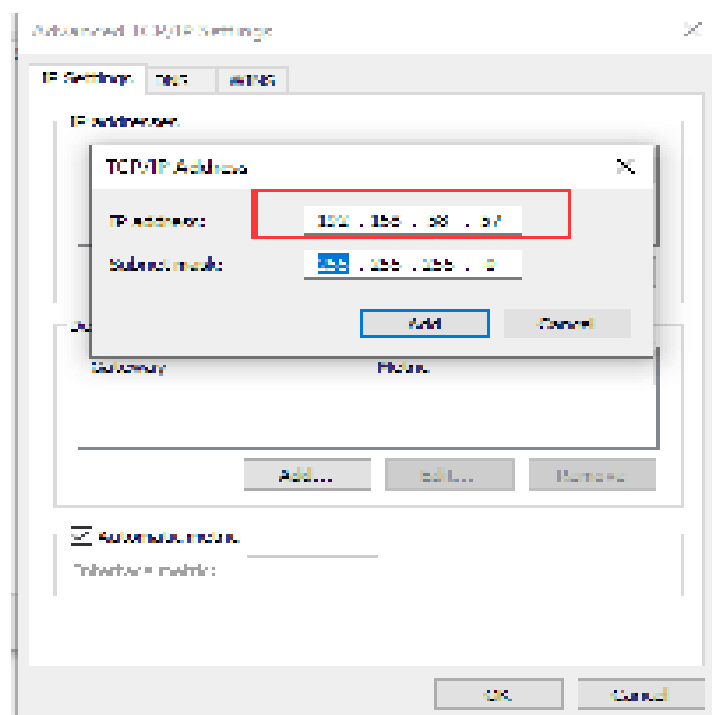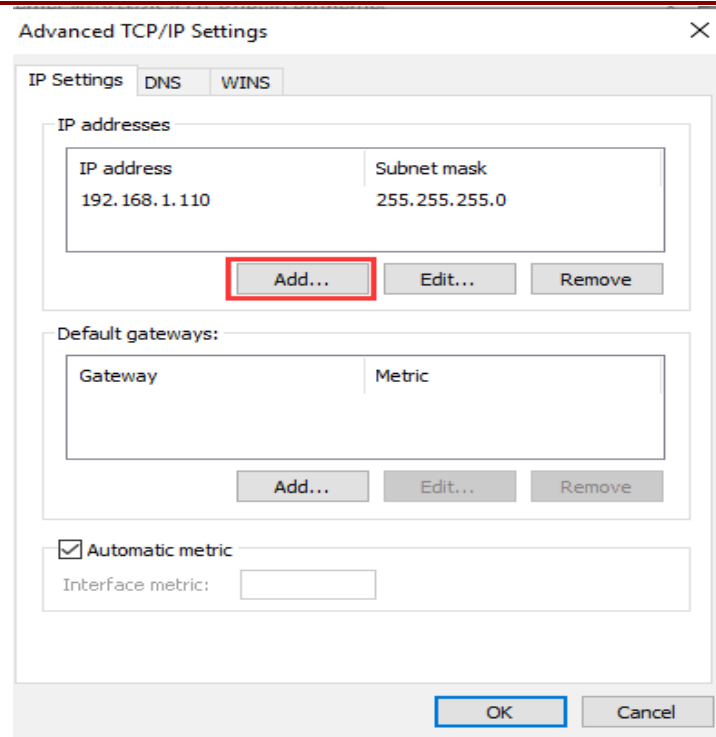
Log in Web as below step

(1) Connect device and PC

Connect the PC to the device's network over cable.

(2) Configure PC's IP address to make sure the device can communicate each other.

Please change your local network IP as 192.168.1.110, see below picture:

(3) Start up the browser and input log-in information,

Start up the browser in PC, input the device's IP address in address bar, (default IP is 192.168.1.9),you can log in the Web pages,

Input user name "woxuwireless",Key"woxuwireless", click <login>.

Login display page

1.2 About page

Page list

About web page, there are three regions:

1. Function selection, select the different function item, in the main function region, will display the corresponding item.

2. Function, Web pages are mainly presented and operated, such as status display, network configuration, etc.

3. Status and configuration

1.3 status

In this item, includes"WLAN","Statistics""Network","Device", display different information.

1.3.1 Wireless

Wireless information is used to display the relevant information.

WLAN Information

Wireless mode	CPE
IEEE mode	802.11A/N
SSID	WX_RTLS
Security	Open
Channel	N/A
Connection status	N/A
Signal level	N/A
Peer MAC address	N/A

1.3.2 Statistics

Network Statistics Information

Interface	IP address	MAC address	RX packets	RX errors	TX packets	TX errors

The wired part and the wireless part respectively count the number of packets received and sent and the number of errors.

1.3.3 Network information

Network Information

Network mode	Bridge
IP address	192.168.1.9
Subnet mask	255.255.255.0
Gateway	192.168.1.1
DNS server 1	
DNS server 2	

Display device network information

1.3.4 Device information

Display hardware and software information.

Device Information

Friendly name	UWB Gateway
Hardware Version	V0.1
Firmware Version	V3.0.11
Release Time	2020-07-06 12:36:19
Serial Number	
Wired MAC	64:e6:25:30:19:13
Wireless MAC	64:e6:25:30:19:13
System time	2013-01-01 01:08:47
Uptime	0 days 1 hours 9 minutes 2 seconds

Device display

Friendly name: the device name you defined, in this device, it is displayed as "UWB Gateway".

Hardware version: current hardware version

Software version: current running version

Release time: the version released time

Serial Number: current device serial number

Wired MAC : current device wired physical address

Wireless MAC: current device wireless address

System time: current system time

Uptime: current system running time

1.4 Set Wi-Fi network

1.4.1 Basic configuration

Disable WLAN: If need to make the device connect Wi-Fi, do not select this frame.

Wi-Fi: Only support 5GHz.

Wireless mode: CPE

1.4.1.1 CPE Mode

Step:

1．The device only supports CPE mode.SSID default is WX_RTLS，AP MAC is 00：00：00：

00：00：00，Authentication & encryption mode is Open. If the device has previously been tied to AP

or router, the SSID, AP MAC address, authentication / secret mode will retain the last bound status

record.

2．Select wireless network scan. As below:

Wireless Network List

Select	MAC address ⇕	SSID ⇕	Security ⇕	Signal dBm ⇕	Channel ⇕	Mode⇕
⦿	64:e6:25:11:02:3c	WX_jj	Open	-31	149 (5.745GHz)	A/N
○	64:e6:25:10:70:05	WX_UWB_RTLS	Open	-59	149 (5.745GHz)	A/N

The device will scan the AP or router that can be searched, select the SSID that needs to be connected, and then confirm the selection button and automatically switch to the basic settings interface, just as the below picture:

Basic Settings

☐ **Disable WLAN**

Wireless frequency	⦿ 5GHz
Wireless mode	CPE ⌄
WDS	☐
SSID	WX_jj (length 1 - 32)
Peer MAC address	64:e6:25:11:02:3c (xx:xx:xx:xx:xx:xx)
Tx power(dBm)	100% ⌄
Security	Open ⌄

Apply   Reset

1．You can see that the Peer MAC address has been entered in the MAC of the destination AP, if the authentication & encryption mode does not enter the authentication & encryption mode of the destination AP, manually modify, click the application, and the binding can be generated.

2．Enter status page about the wireless item to make sure the binding is successful.

1.4.2 Wi-Fi scan

You can see that the Peer MAC address has been entered in the MAC of the destination AP, if the authentication & encryption mode does not enter the authentication & encryption mode of the destination AP, manually modify, click the application, and the binding can be generated. The device will scan the AP or router that can be searched to display its MAC address, SSID, authentication and encryption mode, signal intensity, working channel and mode. Select any of them, automatically jump to the wireless settings page, and fill in the relevant information about SSID and identity.

When click "refresh", the device will scan on AP and display the scanning result.

1.5 Network set

System network mode: IP address,subnet mask,default gateway,DNS server 1,DNS server 2

Network set

Attention

When modifying the device IP, note that the IP of PC is in the same network segment as device IP, but it cannot be the same.

For example, the device IP is 192.168.1.3, and the IP of PC can be set to 192.168.1.1,192.168.1.254,192.168.1.3,Among them, 192.168.1.X represents the network segment and needs to be consistent.

Modify IP address

Modify the IP address

IP address:it's IP address about LAN port,default is 192.168.1.9,

Subnet mask:it's for LAN,default is 255.255.255.0,

Default Gateway: It means network gateway configuration,default is 192.168.1.1,

DNS server 1: DNS server configuration 1 in LAN port, default is 192.168.1.1

DNS server 2: DNS server configuration 2, default is 192.168.1.1

After configuration, click<Apply>.

1.6 Management

Management includes"Basic settings","FW Upgrade","configuration management","system log","system server"and "Reboot".

1.6.1 Basic setting

Basic setting is composed by three parts: device name, updated time interval, key management, language setting.

Device name and updated time interval

    Modify device name and amend status updated time interval.

    Device name：the device name

    Status updated time interval: device status update time interval

    After configuration, click application, the result can be checked in the status page.

    Key management

    Amend user and password. Default user name is woxuwireless，Key is : woxuwireless.

    According to this page, you just need to input new key, click "application".

    Language set

    Two choice: Chinese and English

    Select English in language settings, select USA in country.

    Select and click "apply" .

1.6.2   FW Upgrade

    Upgrade Wi-Fi

Firmware Upgrade

Current version   V3.0.11
Release Time   2020-07-06 12:36:19
Select File   Select file   No files were selected   Upload firmware

Click <select file > to select one FW, click "upload firmware", after successful upgrading, restart and display the version information.

Attention

In the process of upgrading firmware, power failure is not allowed. Power failure will result in unusable equipment.

1.6.3   Configuration management

Three parts:"backup configuration file","restore configuration"and "restore factory settings"

Backup: Backup the configuration file to an external file, and the backup file name is automatically generated into the "config" style.；

Restore configuration：Read the contents of the external file configuration and modify the current configuration of the device**.**

Restore factory configuration: click<factory configuration>, the configuration about the device will restored as default data.

1.6.4 System log

Enable system logs to display important information about the system., select <Clear> to clear the log content.

Enable remote system log, set server IP address and server port, can get the remote system log information.

1.6.5 System service

Four parts：SNMP、NTP management、allow management HTTP port and enable TELNET

Enable SNMP：is used to set up SNMP(simple network management protocol)；

NTP management: manual and NTP,to set system time;

Allow management HTTP port ：default allow, default port is 80；

Enable TELNET：default is enable, default port is 23.

1.6.6 Reboot

Click <reboot>, the system will reboot.

1.7 UWB

Five parts ：Basic settings, Advanced, Statistics,UWB Upgrade,RF Gateway

1.7.1 Basic settings

Display current device's UWB version about H/W and software , set its ID, others are set off from the server.

It can be selected from 0 dBm, but it is not for end users, it is for technical personnel. When it sell to end users, it has been locked.

1.7.2 Advanced

Used to set up sub-anchor list and team number.

1.7.3 Statistics

It is used to count the data of sending packets, sending successful data, and receiving message data.

UWB Statistics

Type	TX	TX SUCC	RX
Sync	0	0	173016
Poll	0	0	0
Resp	0	0	0
Final	0	0	0
Report TOF	0	0	0
Blink	0	0	0
Tag Reg	0	0	7606
Tag RegACK	0	0	0

Network Statistics

Type	TX	RX
TOF	0	0
TDOA	0	0
Dync Timeslot	0	0
Dync Sync	0	0
User Data	0	0
Heartbeat	137	0
Tag Reg	7606	0
Discovery	0	0

1.7.4 Upgrade

Upgrade step：

（1）Open the Upgrade page, as below:

（2） Click "select file" and import bin file, such as UA220 APP V3.0.18.bin

（3） Open the management page and click restart.

（4） Open UWB page, check whether it is the updated version information.

If it fails, restart the device and check UWB status, if it is not successful, repeat the above steps. If it always fails, please contact us.

The whole software bundle is upgraded. Common users cannot modify the software. The software can be obtained by the website www.uwbleader.com or Woxu support team.

The upgrade can be performed only by professional installers who have logged in to the device.

1.7.5　Gateway

As below picture,select the gateway page in UWB page,the server default IP is 192.168.1.110,server port is 44333. You can change the server IP and server port as you need, please make sure the device IP is in the same network segment, click enable log, make TAG and anchor range, will display the ranging information in log output frame.

RF Gateway

Server IP	192.168.15.23
Server port	44333
Enable Log	☑

Apply

Log: