

Radar touch interactive operation manual

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I. Features and functions

Win7, win8, win10 and win11 operating systems are supported.

Support mouse simulation

Support precise multi-point interaction

TUIO protocol (UDP, TCP mode) is supported

Simple calibration and calibration, convenient operation.

Multi-radar cascade is supported, and ID tracking of feet and hands is also supported.

Fast noise removal, multi-machine sharing radar, automatic filtering of trailing noise.

Upgrade all TOF radars with high stability: the waterproof level is above IP65, and they are used indoors and outdoors.

It can realize the interaction of lighting, LED, display screen and projection.

Covering radar, interactive software, games, game development platforms, integrated products of development packages, etc.

Projection Interaction



Lighting Interaction



LED Interaction



Immersive Interaction



二 . Run computer recommended configuration and optimized settings.

2.1 recommended configuration of computer

[Processor]: I5-10400F

[main board]: microsatellite

[internal memory]: 8G

[hard disk]: solid 240G

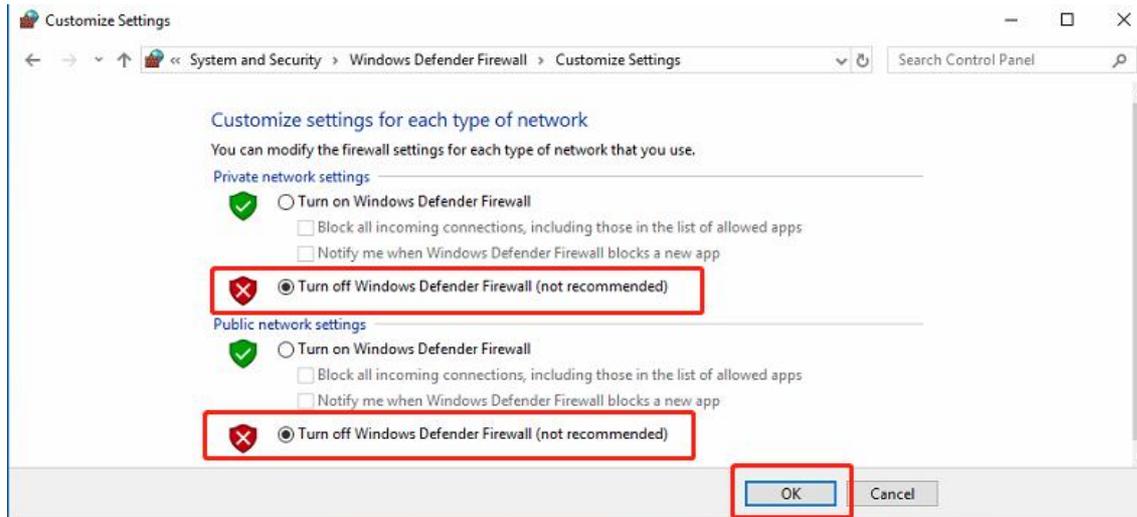
[Chassis]: First Horse Craftsman 5

[Display card]: discrete graphics card GTX1050TI 4G and above

[Operating system]: windows 10 Professional Edition 64-bit (not the home version system);

2.2 computer system settings (must be set)

(1) turn off the firewall.



(2) Turn off WIN10 system to disable automatic update+turn off windows defender:

Right-click menu-[Run]-enter [gpedit.msc]-[OK].

a. [Computer Configuration]-[Management Template]-[Windows Components]-[Windows Update]-double-click [Configuration Automatic Update] and select [Disable];

b. User Configuration-Management Template-System -- [Windows Automatic Update-select Enabled;

c. [Computer Configuration]-[Management Template]-[windows Components]-[-- [windows Defender] (1709 and above choose Windows

Defender virus protection program)-[Turn off windows defender virus protection program]-[Enabled], and then [Confirm].

d. Win10 1909 and above systems also need to be in the lower right corner of the taskbar-[Windows Security Center]-[Home]

-[Virus and Threat Protection]-[Virus and Threat Protection Settings]-[Real-time protection], [Cloud provides protection], [Automatic sample submission]-[Close]

-[Firewall and Network Protection]-[Local Network], [Private Network], [Public Network]-[Close]

E. Please uninstall the antivirus software before starting the program. 30, Kingsoft Internet Security and other anti-virus software affect the normal operation of the program.

III. Radar installation scheme

3.1 Radar Hardware List

Hardware as standard:

1 software dongle

1 Hawkeye radar

1 radar shell

1 power adapter

The network port is directly connected to the first one.

1 usb network port

Hardware selection

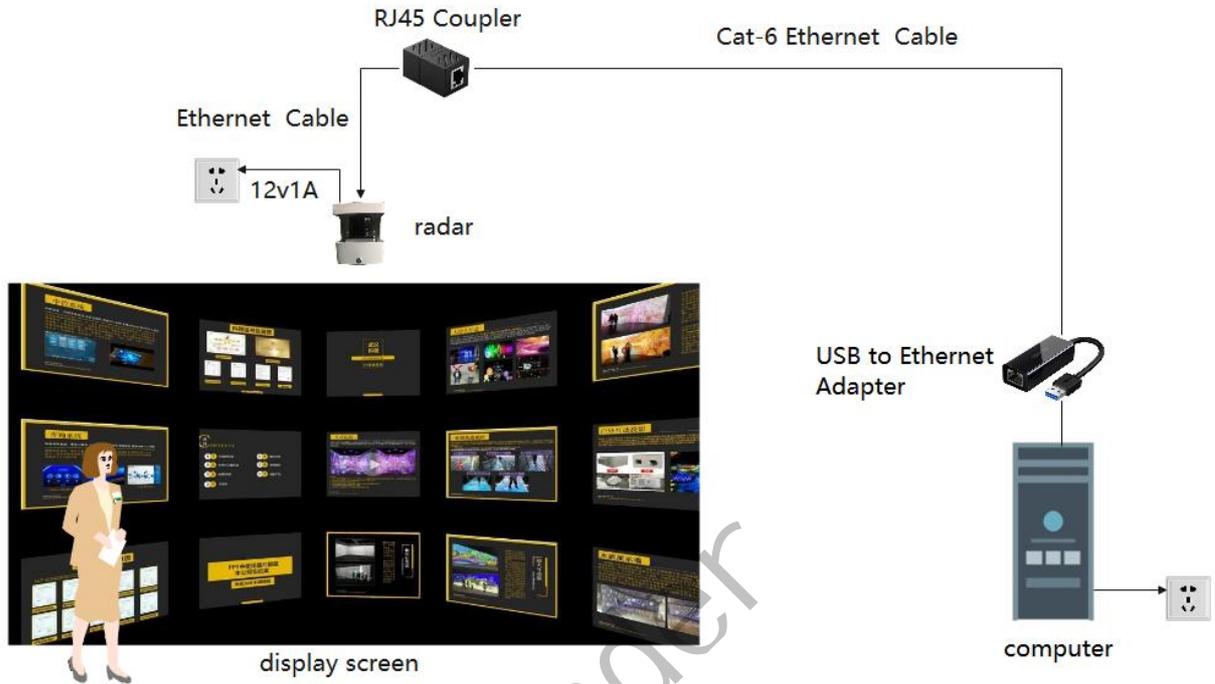
Class VI network cable is used to extend the distance from radar to computer, and the length depends on the site environment.

3.2 Radar Connection Diagram

(1) Single radar, wall surface

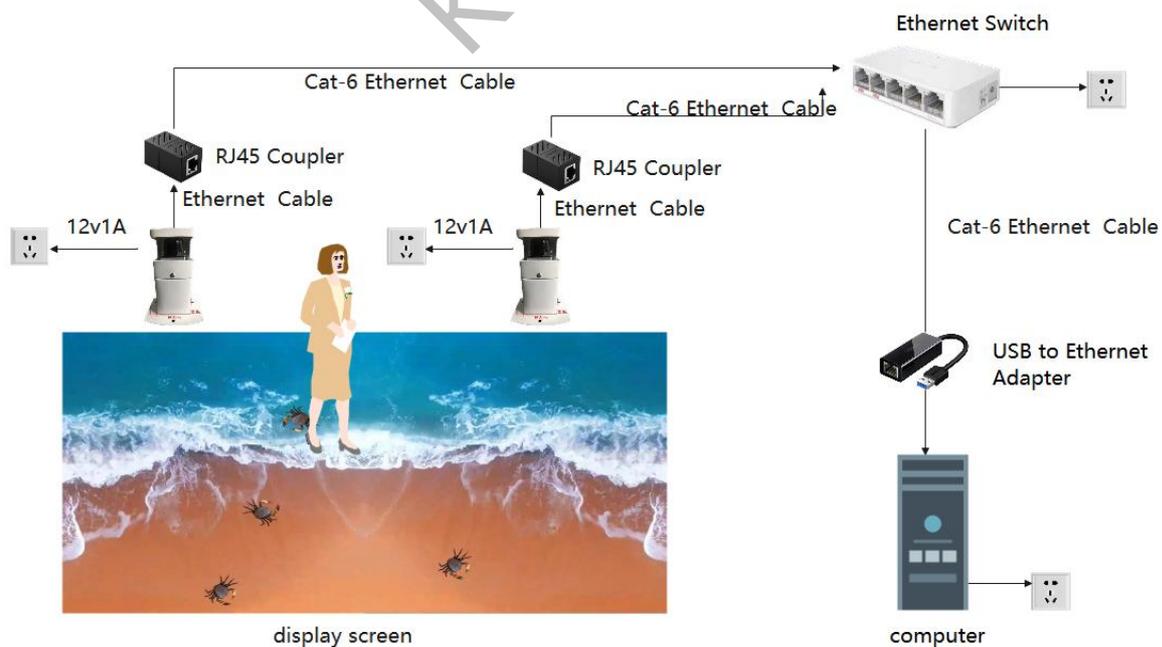
Methods: The radar is connected to the computer through 6 kinds of network cables, and the radar is powered separately;

Methods: The radar and computer are connected to the same switch to form a LAN, and the radar is powered separately.



(2) Multiple radars, ground

Connect multiple radars and computers to the same switch to form a LAN, and the radars are powered separately.



3.3 Radar size map

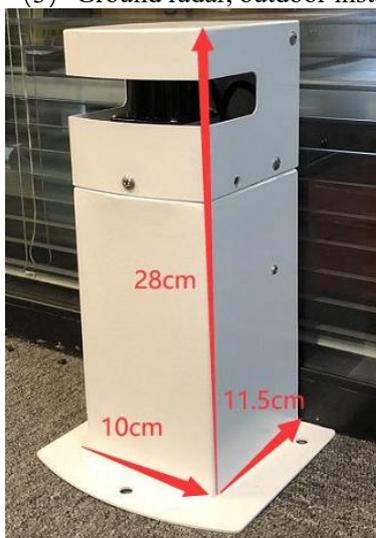
(1) Wall radar



(2) Ground radar, indoor installation, including base



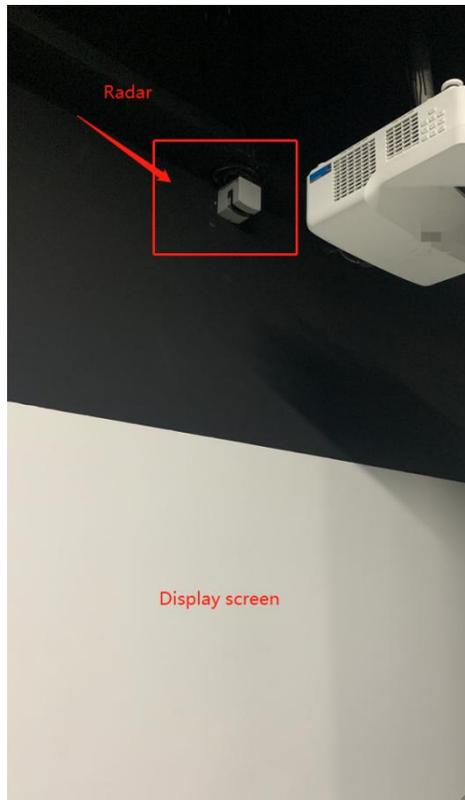
(3) Ground radar, outdoor installation, including base



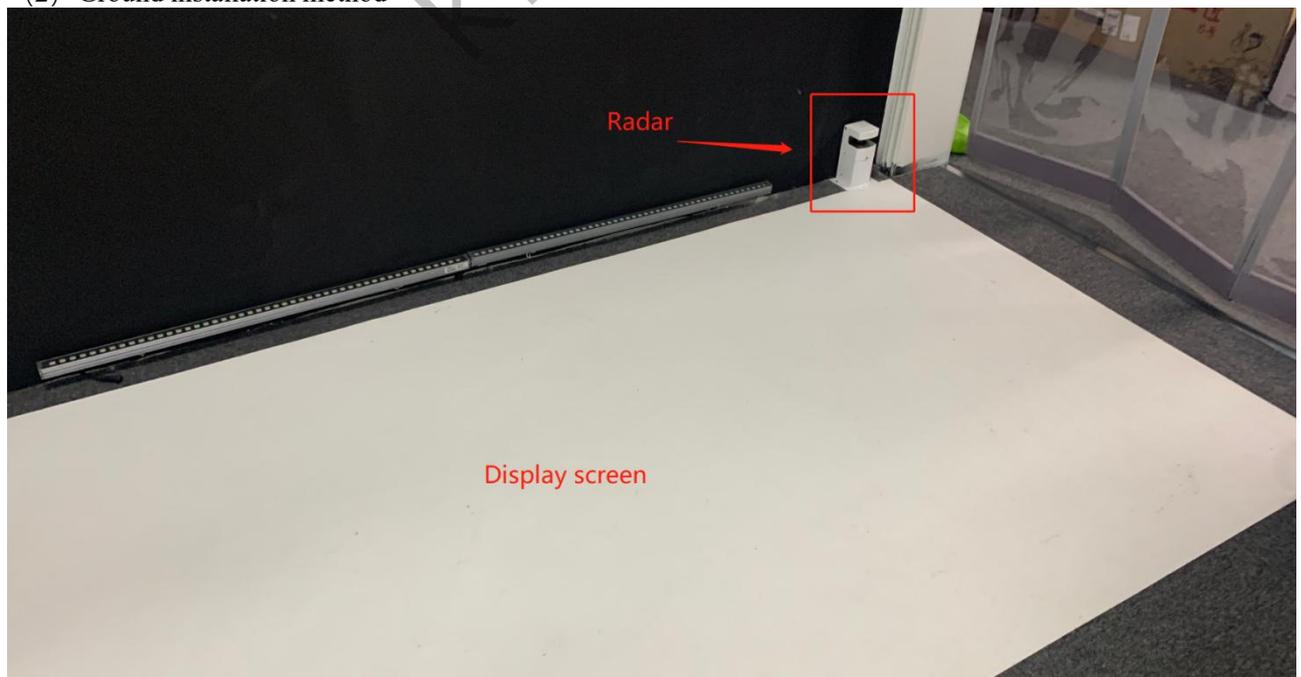
3.4 Radar installation method

(1) Wall mounting method

In order to ensure the interactive effect, the radar scanning sector should be as close to and parallel to the surface of the display medium (such as projection screen, LED display screen and splicing screen) as possible. The external surface of radar equipment should be kept clean and dust-free. When no foreign objects touch the surface of the display medium, the scanning test results should be displayed without any obstacles.



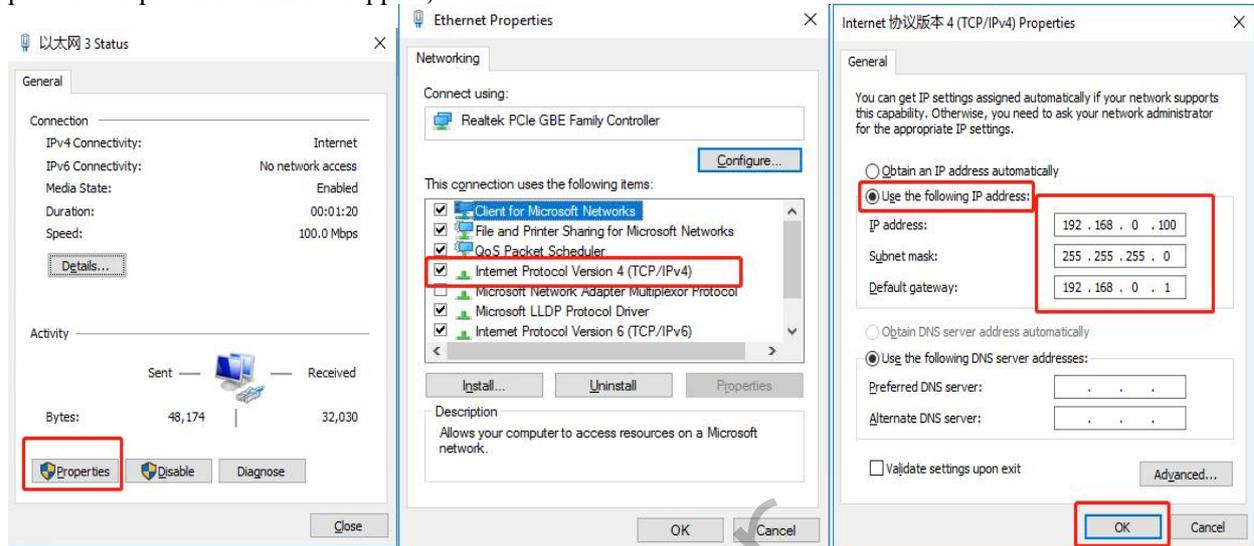
(2) Ground installation method



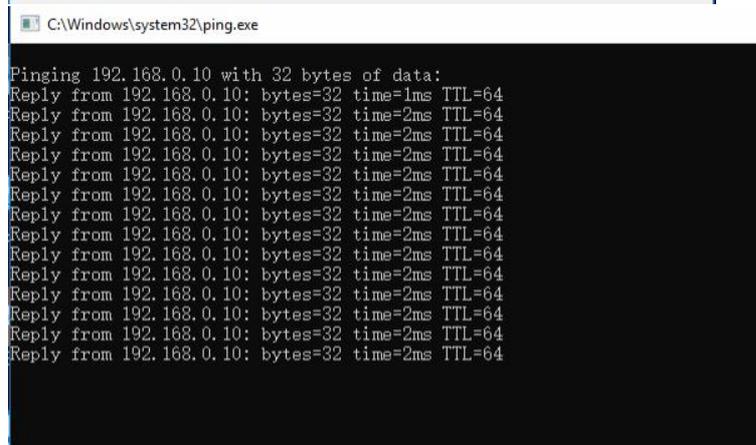
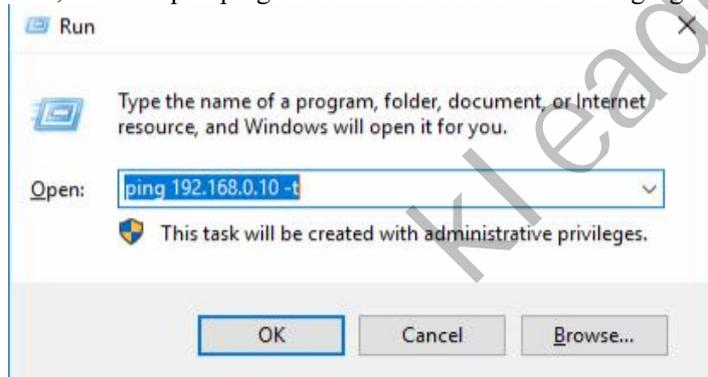
3.5 computer network IP settings

When the radar works, the IP address of the connection port of the installation host is modified through wired Ethernet control and data transmission.

Open [Network and Sharing Center], select [Change Adapter Settings], select [Local Connection], double-click to open it, select [Properties], Internet Protocol Version 4(TCP/IPv4), and modify the local IP as shown in the figure below. The native IP can specify other IP besides 192.168.0.10. You can also modify the IP address of lidar to coordinate with the local subnet and gateway (if you need to modify the radar IP, you can contact the equipment provider to provide technical support).

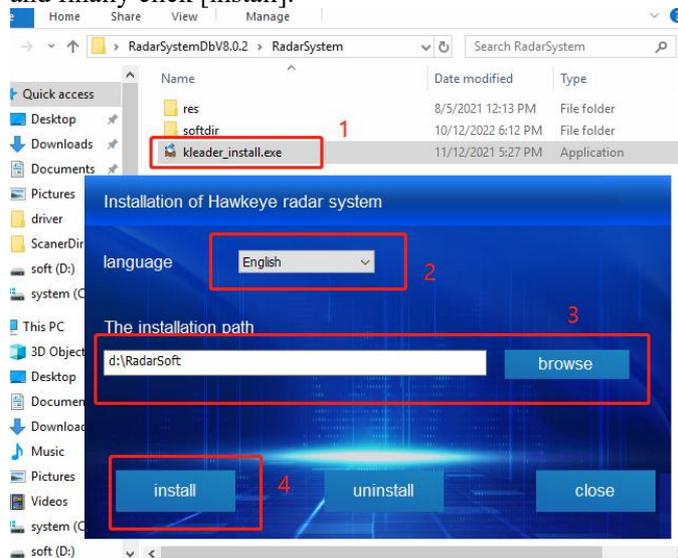


After modifying the IP of the computer, check whether the data is connected or not. In operation, enter: ping radar IP -t, for example: ping 192.168.0.10 -t T. The following figure shows that the communication is normal.



IV. Installation of radar software

(1) open [RadarSystem], double-click [kleader_install.exe], select [language], select the installation path [browse], and finally click [install].

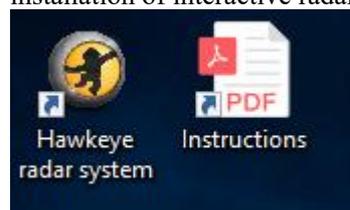


(2) After installation, the following prompt will appear in the installation package



The program will jump out of another installation interface to install the runtime (required, if it is not installed, it must be installed. If it has been installed, you can directly close the installation interface.

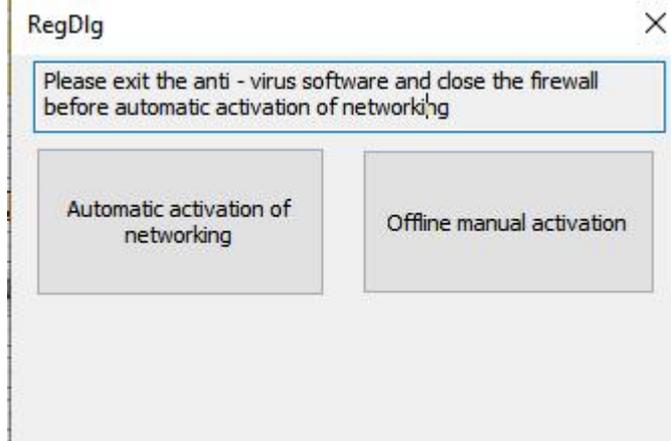
(3) Finally, [Hawkeye radar system] and [Instructions] will appear on the desktop, indicating the successful installation of interactive radar software.



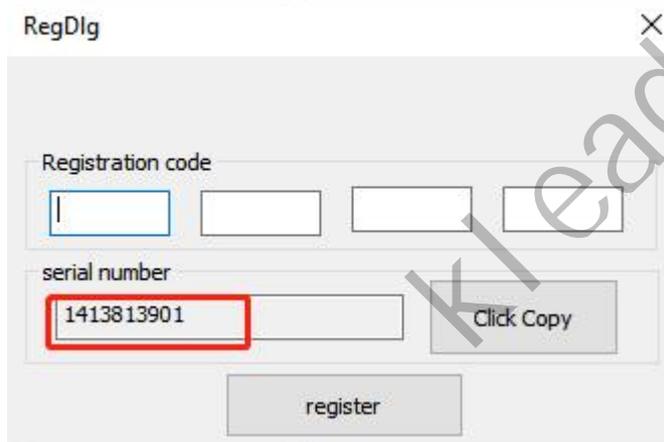
V. Debugging of radar software

5.1 Activate the dongle

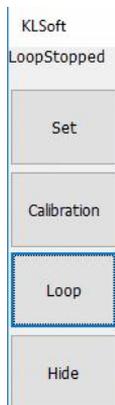
Plug the dongle into the usb port of the computer, and double-click the icon [Hawkeye radar system]. The dongle needs to be activated once when running on a new computer.



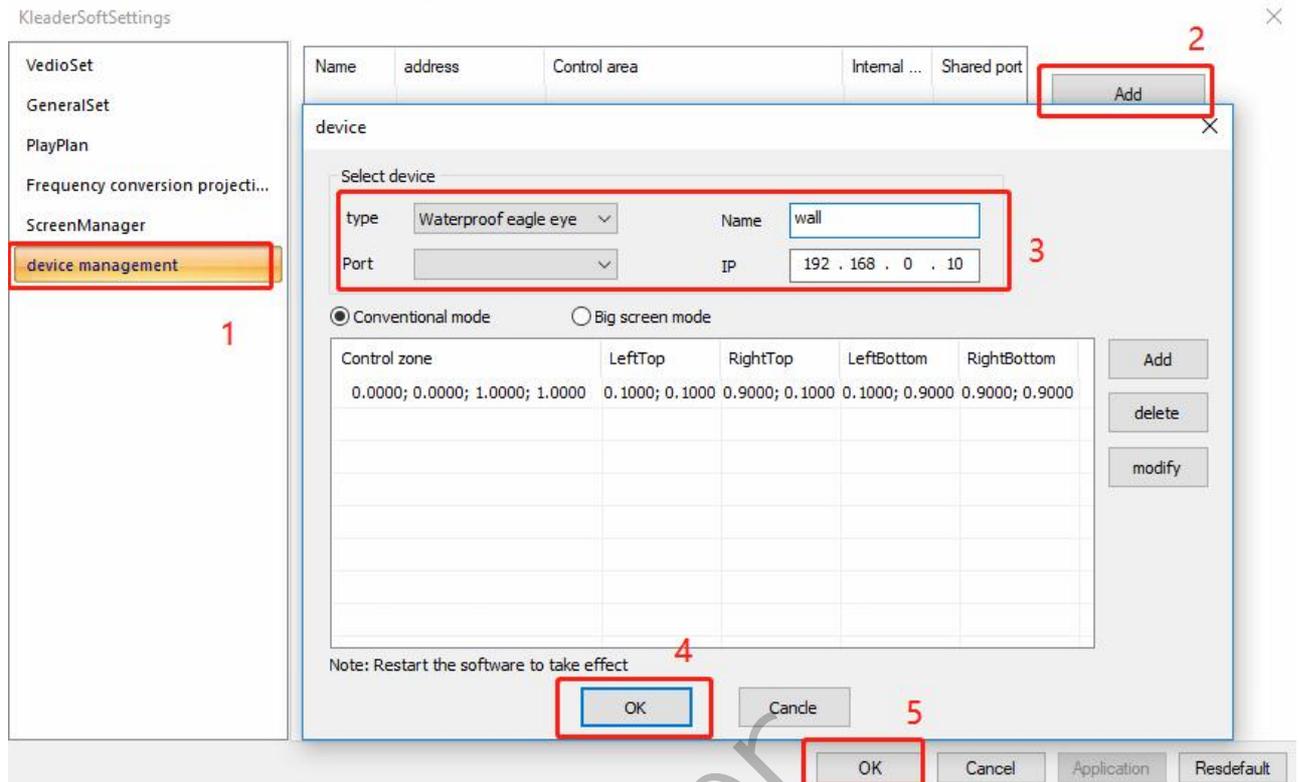
- 1: After the computer is connected to the external network, click Install on the left. After the automatic activation is completed, the software can be automatically opened;
2. Mode: If the computer has no external network, click the right button, give the serial number to the manufacturer, and the manufacturer will feed back the registration code for manual activation.



5.2 Add radar



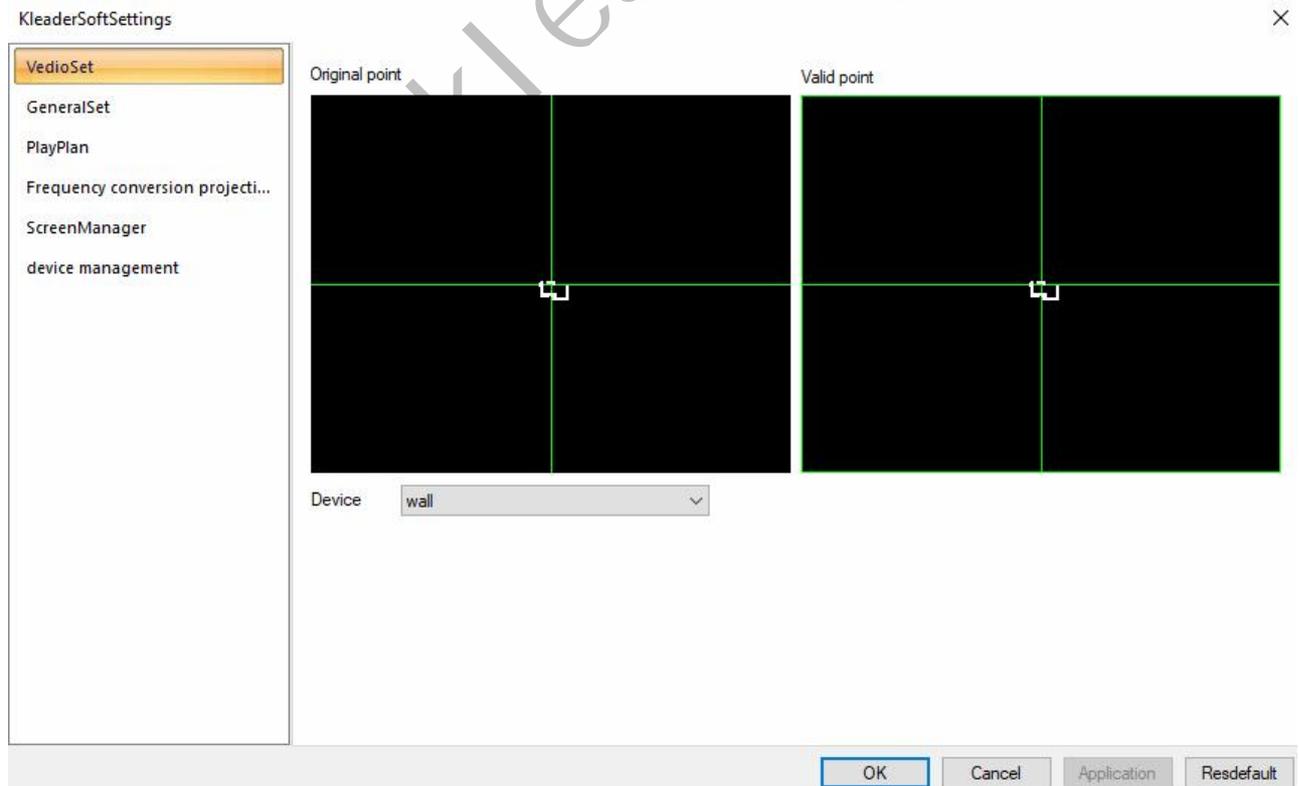
Click [set] on the main interface, select [device management], [add], [Waterproof eagle eye], enter [name], enter the IP address of the radar, and click [OK].



If multiple radars are purchased, they can be added several times according to the above method.

After adding the equipment, you need to exit the software to save. Find the software icon in the task bar at the lower right corner of the computer desktop, right click to exit, or press the shortcut key ALT+ESC to exit the software.

Turn on [Hawkeye radar system], [set] and [VideoSet] again to see the radar signal source.

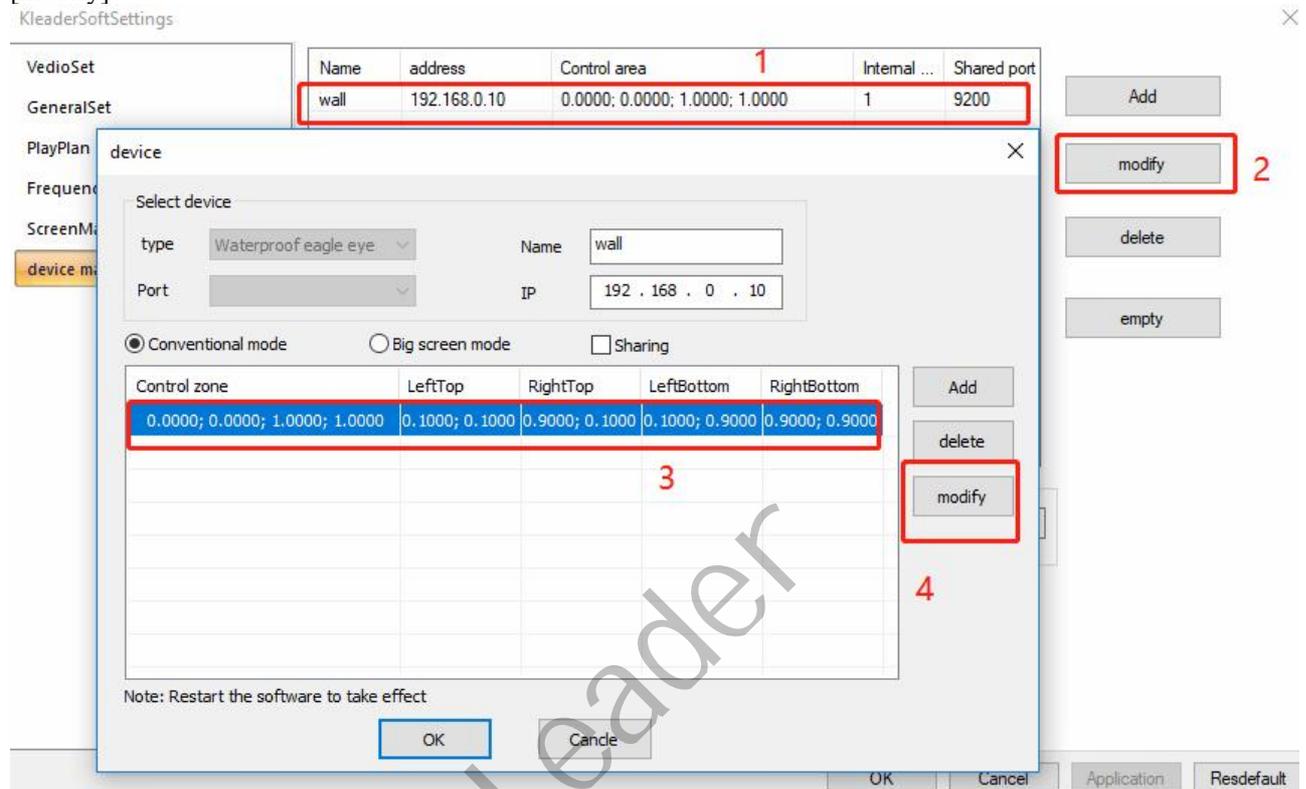


5.3 Radar control range setting

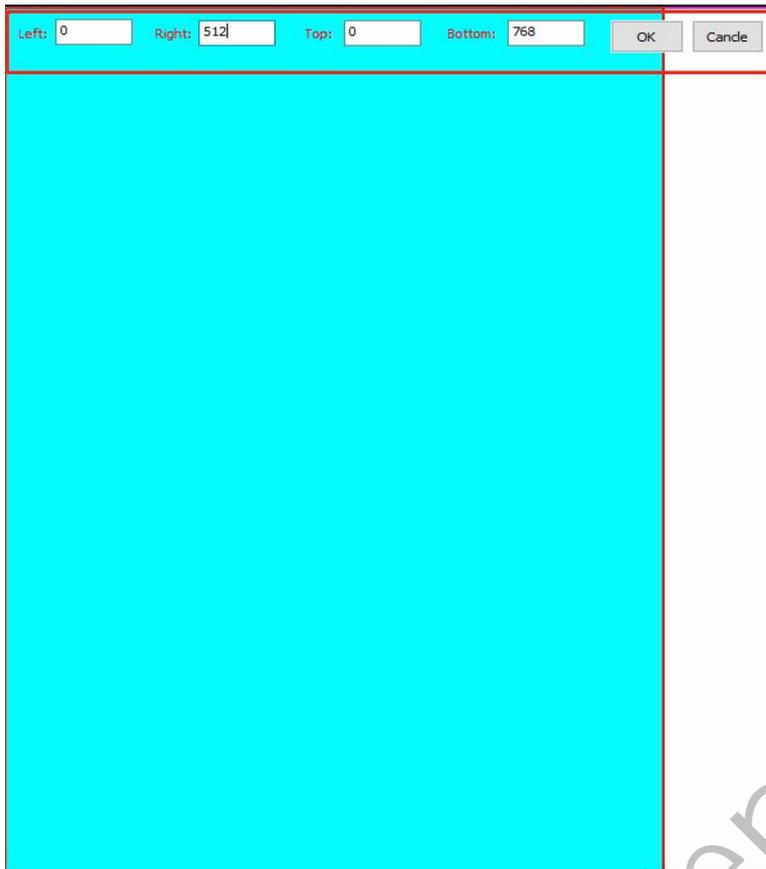
Under normal circumstances, a single radar can use the default settings.

If multiple radars, special-shaped images and LED screens partially display the computer desktop, the following settings are required.

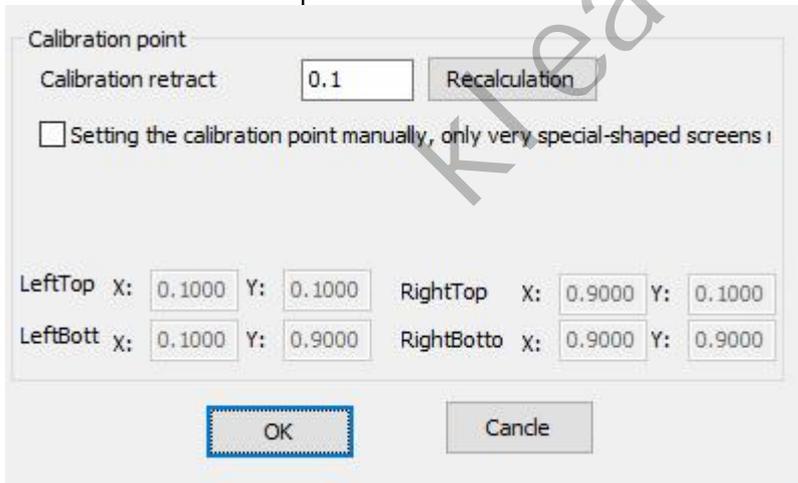
Click [set] in the main interface, select [device management], click [modify], select [Control zone] and click [modify]



Adjust the screen area controlled by this radar (blue is the control area) by adjusting the four values of left, up, right and down.



Select [Recalculation] to set the indentation ratio of calibration points, or check it, and then manually set the coordinates of calibration points.



After setting, the data needs to be saved by exiting the software.

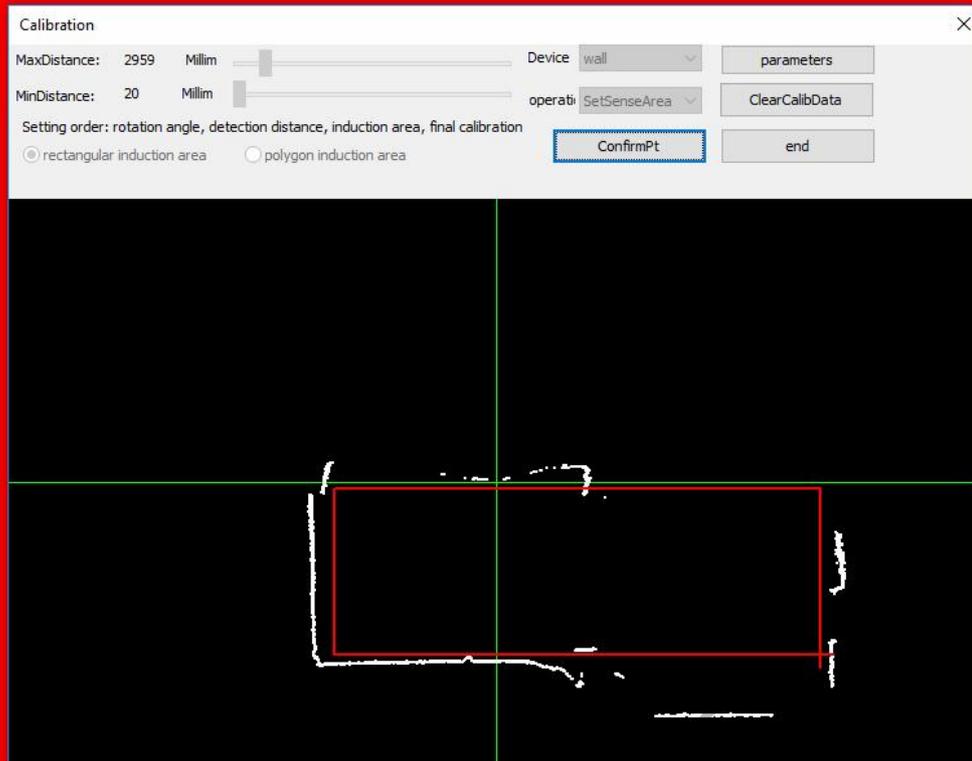
5.4 Radar calibration

Click [Calibration] on the main interface, select [device], and then set [MaxDistance] according to the farthest distance from the radar to the screen, so that the shooting surface of the radar can cover the display screen.

Click [parameters] and [Rotation angle] to set it to an appropriate value.

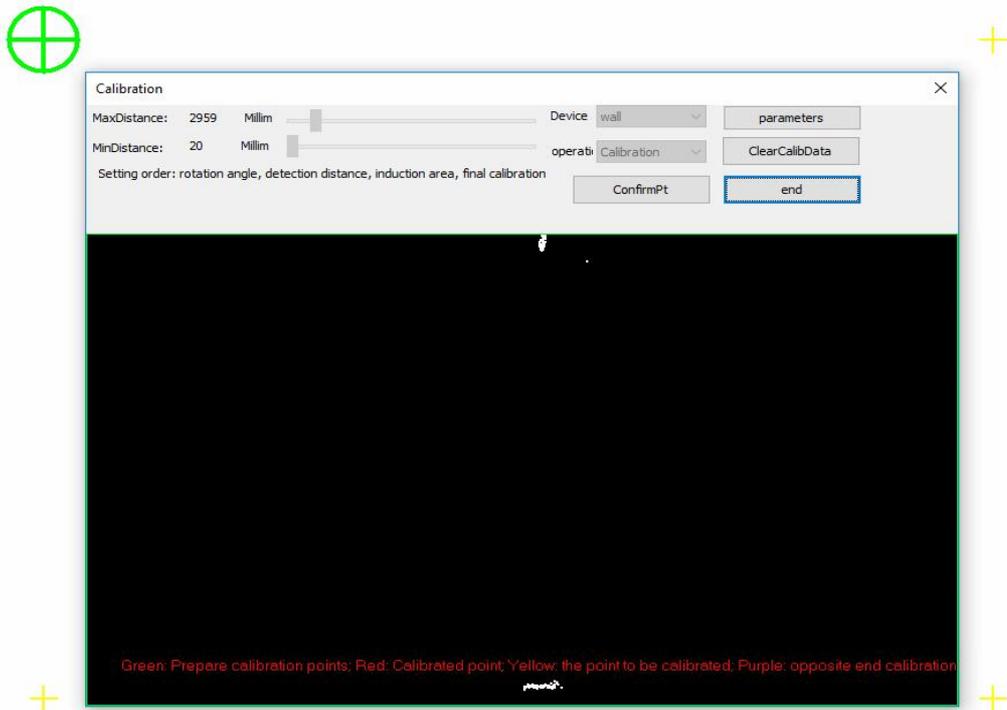
Find [operation], select [SetSenseArea], touch around the screen to determine the approximate position of the screen on the radar identification map, then click [start] to set the sensing area. The first red cross cursor is placed in the upper left corner area, click [confirmPt], and the second red cross cursor is placed in the lower right corner

area, click [confirmPt]. Note that the red rectangular box must cover the red basemap screen area.



According to the location of the red area of the screen in the video source
The induction area must cover the area

After the sensing area is set, find [operation] and select [Calibration], and the display interface is as follows.



Calibrate in turn according to the prompts of the green circle. Put your hand or other objects vertically on the cross cursor in the green circle, and white spots will appear in the black area of the screen. Point the red cross in the black area to the white spots, and click [confirmPt] to complete the calibration of one spot. The green circle will go to the next one, and the dots will be finished in turn. After calibration, the radar calibration interface will automatically close. If calibration is cancelled, click the [end] button.

(After the calibration is completed, as long as the relative position of the radar and the display device does not move, there is no need to calibrate again.)

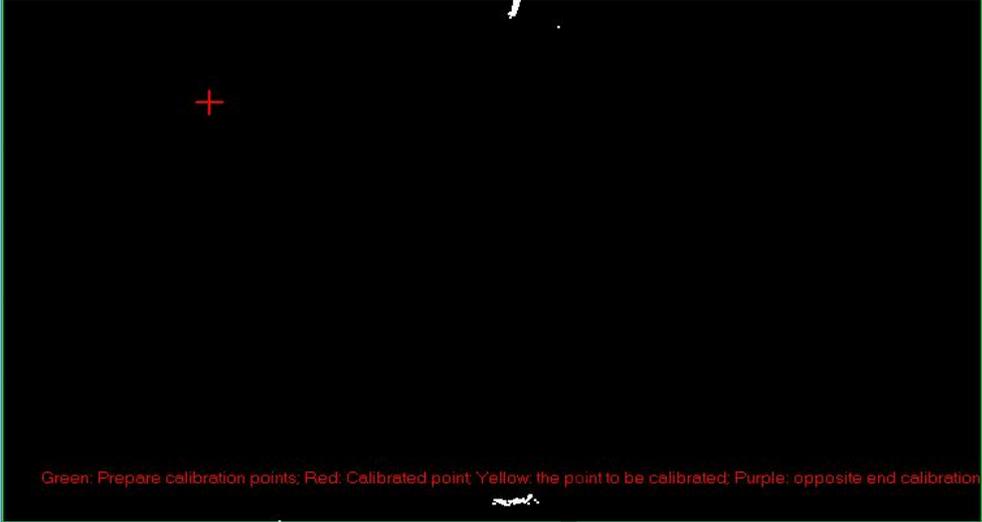


Calibration

MaxDistance: 2959 Millim Device: wall

MinDistance: 20 Millim operati: Calibration

Setting order: rotation angle, detection distance, induction area, final calibration



Green: Prepare calibration points; Red: Calibrated point; Yellow: the point to be calibrated; Purple: opposite end calibration



Calibration

MaxDistance: 2959 Millim Device: wall

MinDistance: 20 Millim operati: Calibration

Setting order: rotation angle, detection distance, induction area, final calibration

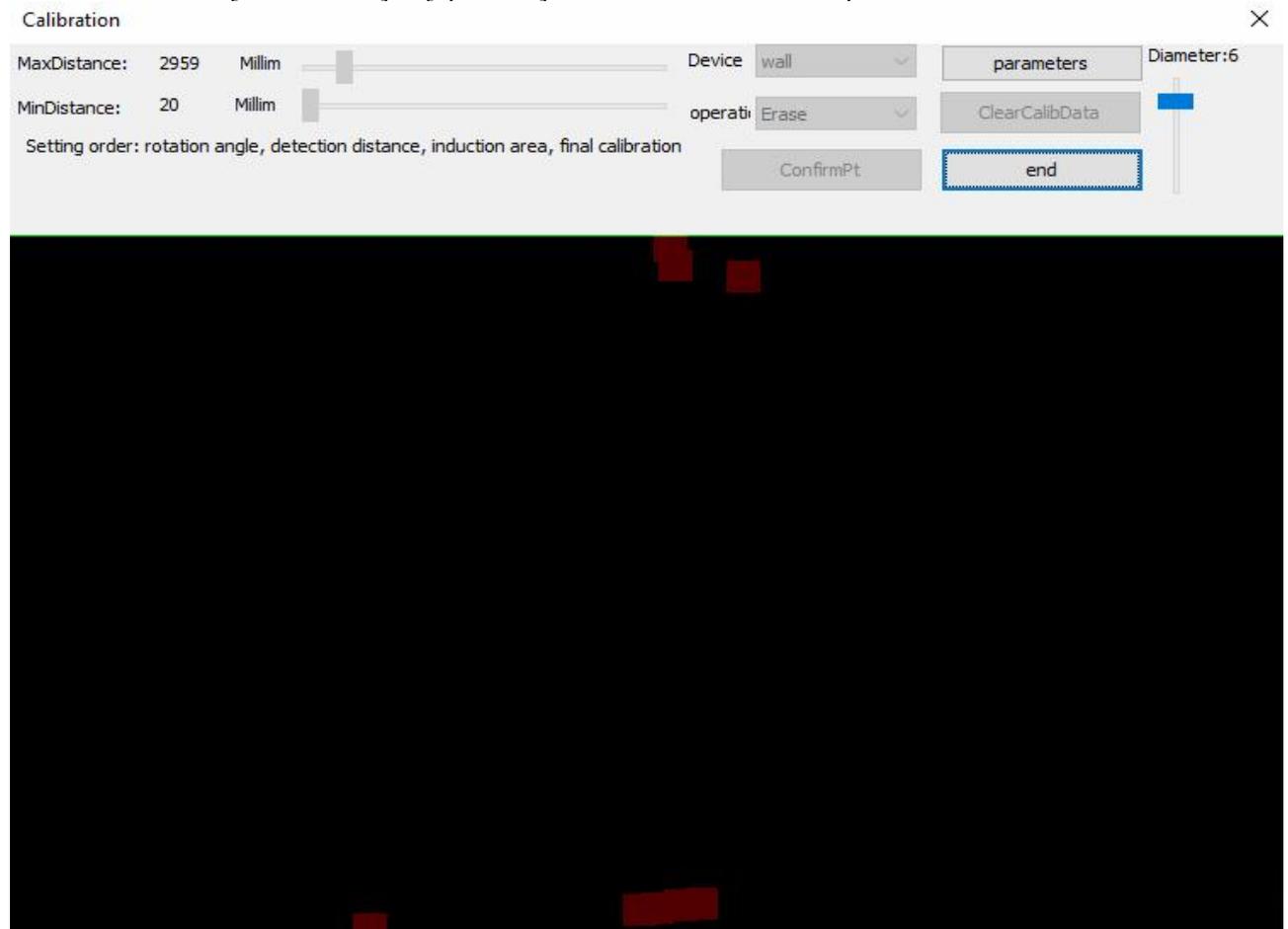


Green: Prepare calibration points; Red: Calibrated point; Yellow: the point to be calibrated; Purple: opposite end calibration

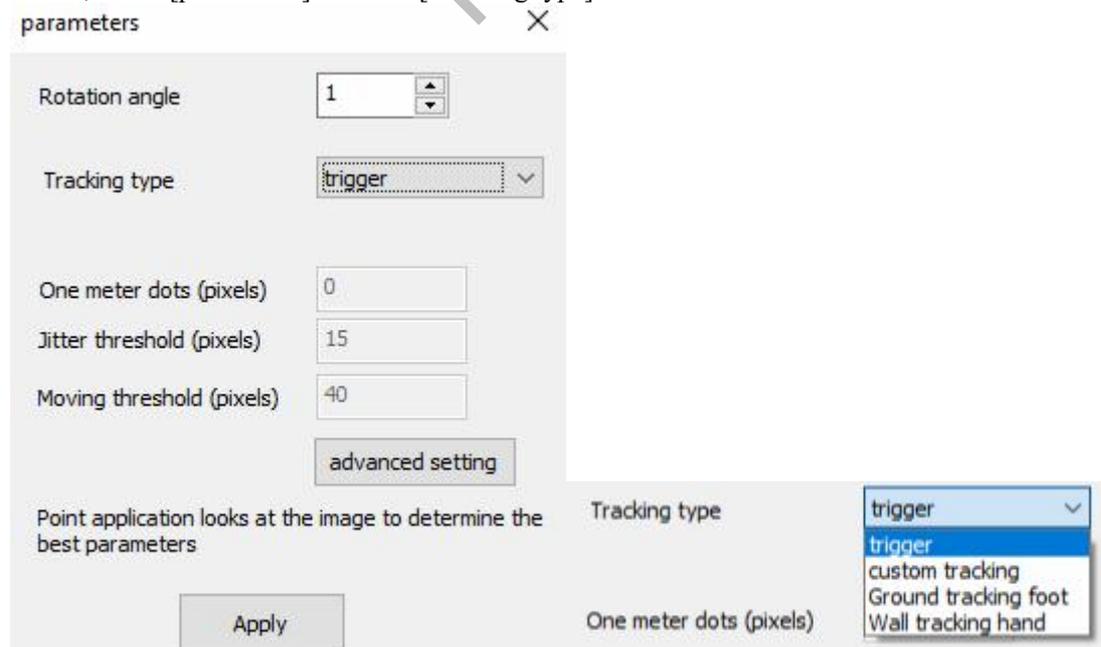


After calibration, find [operation], select [Erase] and click [start] to wipe many interference points in the black area. You can adjust [Diameter] to control the size of the eraser, and then click [end].

You can also select [Undo rubber] in [operation] to cancel the area to be wiped.



At last, select [parameters] and find [Tracking type].



Trigger: It is often used for routine ground interaction and game interaction on the wall.

[custom tracking]: It is often used for ground or wall interaction without tracking, and for special tracking, it is necessary to adjust the tracking parameters by itself.

Ground tracking foot is often used for ground light following, sliding triggering or directional interaction.

[Wall tracking hand] is often used for wall button click, sliding trigger or directional interaction.

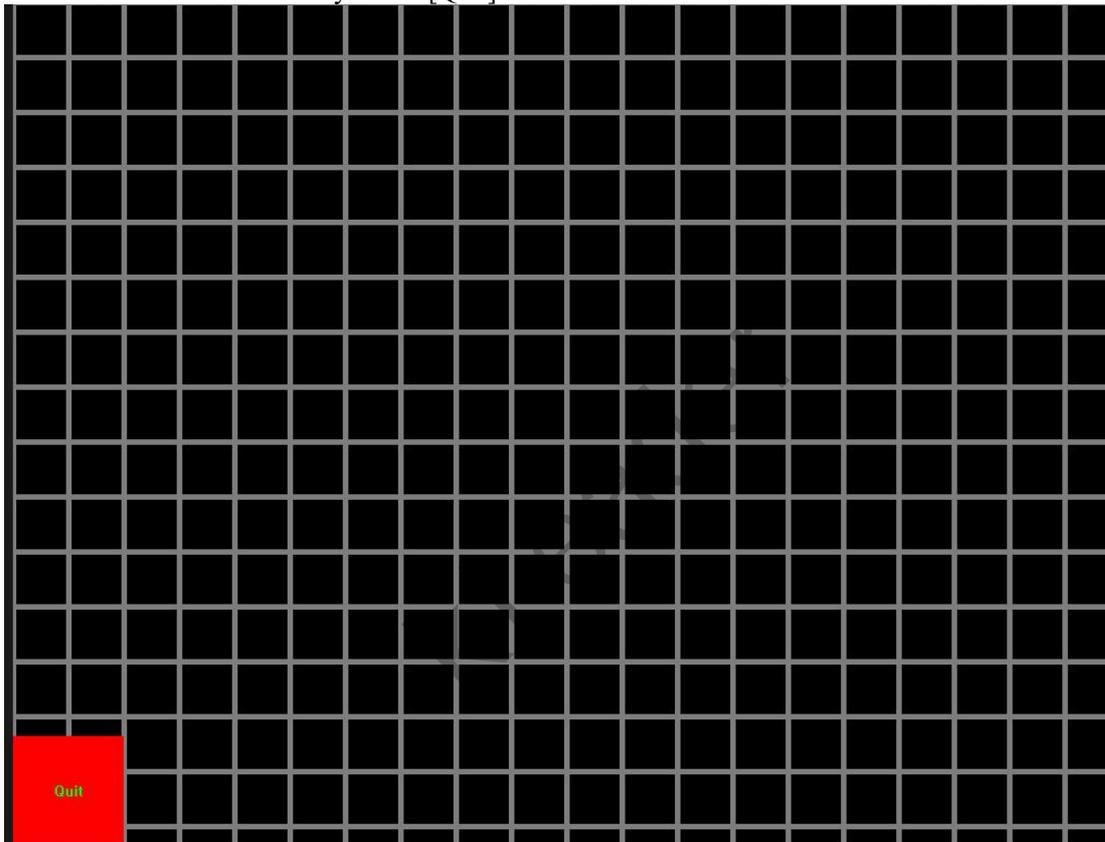
[One meter dots(pixels)]: refers to how many pixels there are in a meter.

For example, a lamp has 60 lamps per meter, and three lamps are one pixel, so the number of dots per meter is 20.

For example, if the resolution of projection 1024*768 is 4 meters *3 meters, then the number of points corresponding to 1 meter is 1024 divided by 4, that is, 256 points.

If multiple radars are used in cascade, select other radars in the equipment and debug them in turn according to the above operation.

Find the interactive system icon in the task bar and right-click it to find [Radar Test Program], which can test the calibrated interactive accuracy. Click [Quit] in the lower left corner to exit the test screen.



5.5 broadcast plan

(1) How to add effects?

Click [set], select [PlayPlan], and click [add] to load multiple files into [effective path]. The format supports: (*.exe*.toe; *.cmd; *.swf; *.avi; *.mp4; *.mov; *.klp)

(2) Play mode

1 effect is played manually.

Manual playback, the playback time is invalid. Click Add directly to add the effect to be played to the list. Double-click it, or select this item and click Play to select it. If you want the software to start automatic loop playback, please check-> [atoplayrecycle] and [Applycation start then hidden] under the playback plan.

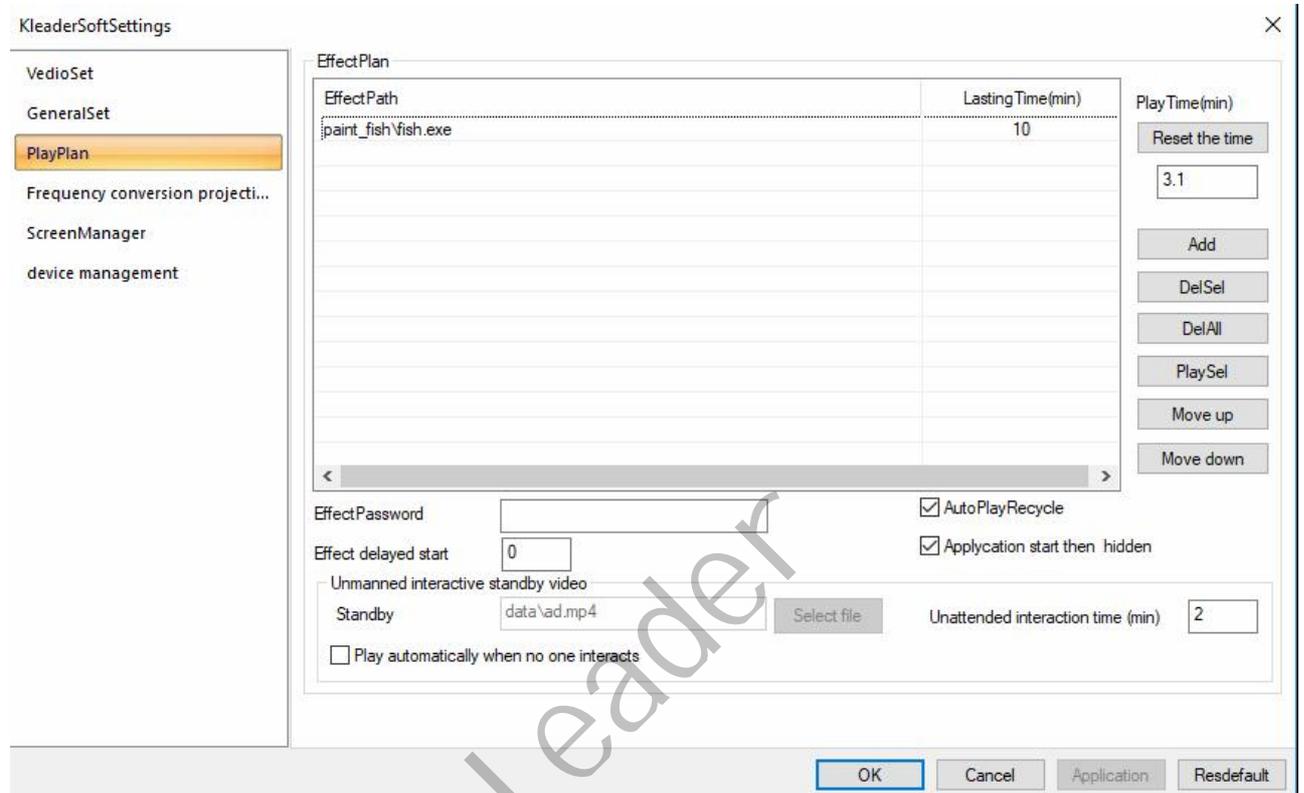
2 Multi-effect automatic playback

Like manual playback, it needs to be added to the list box. The playback time editing box represents how long the added effect will play and will be switched. It can also be changed by double-clicking the item in the duration of the list box.

Click OK after setting, and click the [LOOP] button in the main panel.

(3) If the standby time of unattended interactive play is set

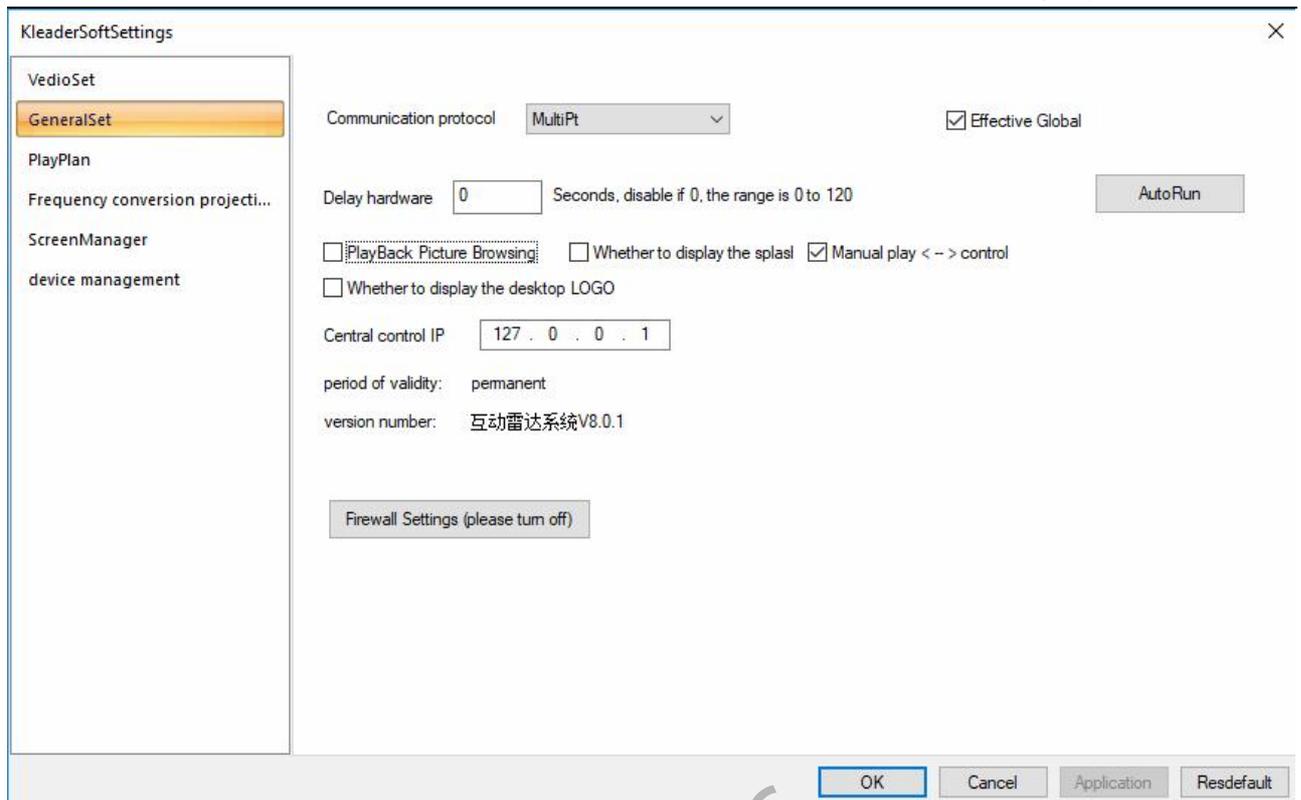
Check [play automatically when on one interactions] and [Standby] to add video, and you can set the standby video and time for unattended interactive play.



5.6 General settings

(1) the program is started.

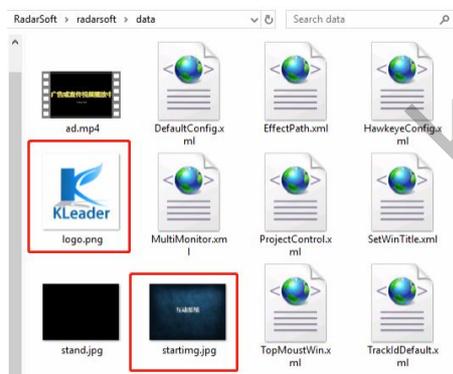
Select [GeneralSet], select [AutoRun], prompt Boot success, and click [ok].



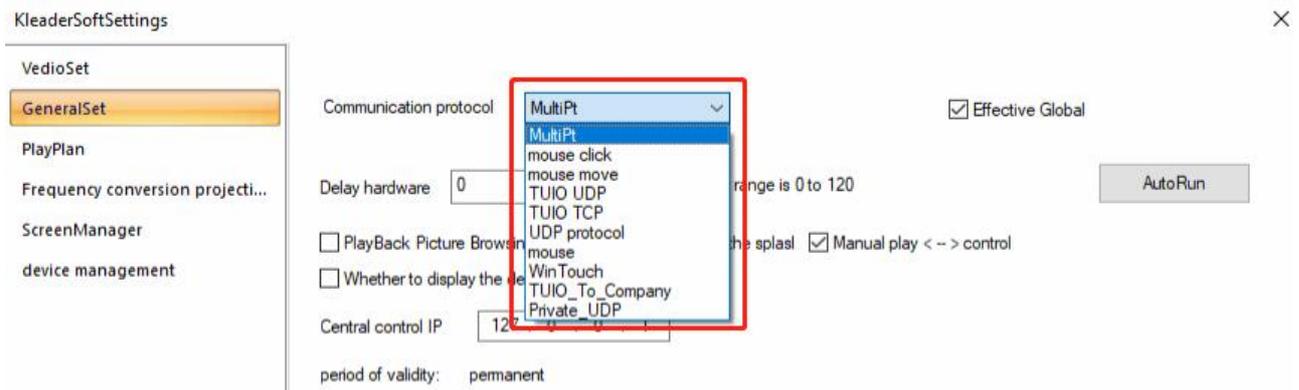
(2) [Effective Global], if interaction is required, it must be checked.

(3) How to set the software startup screen and logo?

When [when to display the splash] and [when to display the desktop LOGO] are checked, the interactive software will start with the splash screen advertisement and logo, and the alternate path of the image is D: \ radarsoft \ radarsoft \ data, starting.jpg and logo.png.



5.7 Choose the communication method.



Difference of communication methods:

[MultiPt] is suitable for purchasing multi-point interactive effects provided by this system, or using effects developed based on SDK.

[Mouse click] The collected signal is converted into mouse message, only the mouse click message.

[Mouse move] The collected signals are converted into mouse messages, only the mouse movement messages.

TUIO can be divided into udp and tcp. TCP is mainly used for flash programs, while udp is mainly used for other programs because of its high speed.

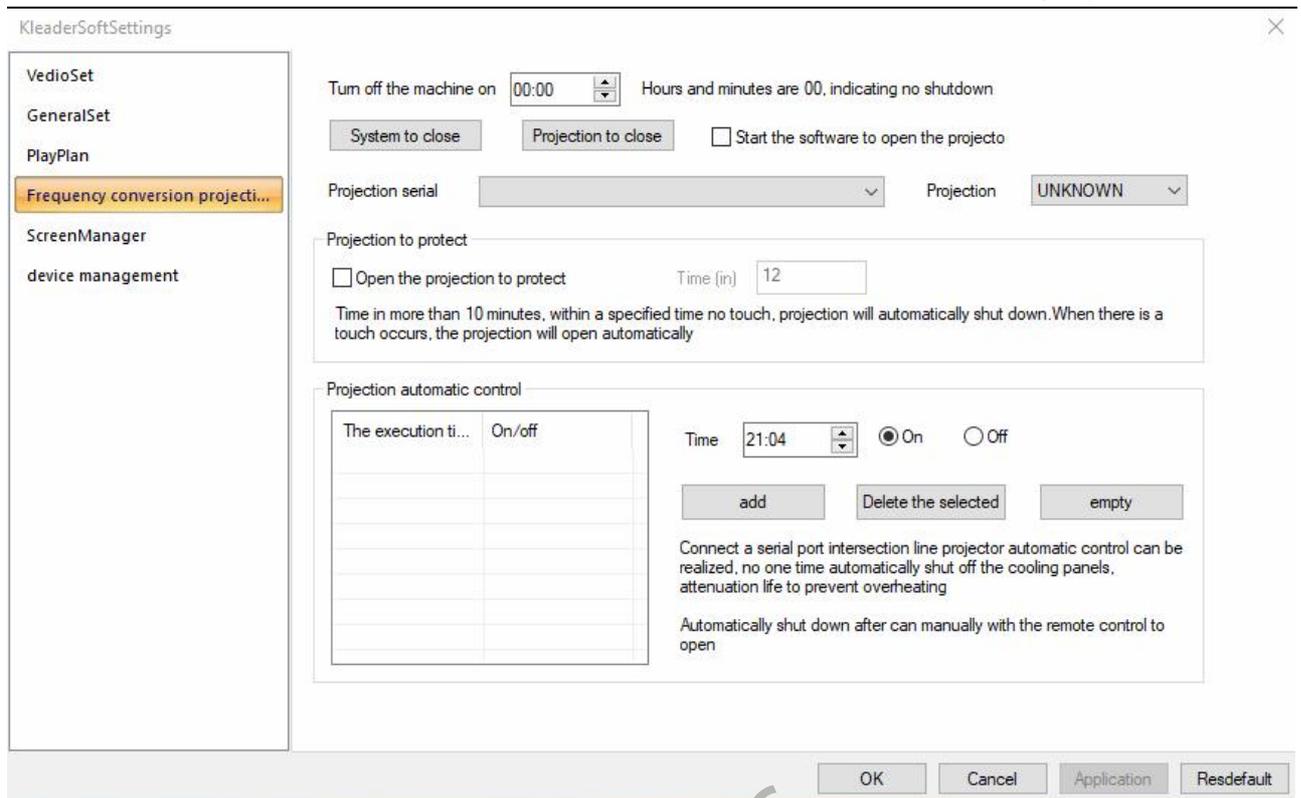
5.8 Variable frequency projection

(1) Set a timed shutdown.

[Frequency conversion projection] You can set the timing to turn off the computer.

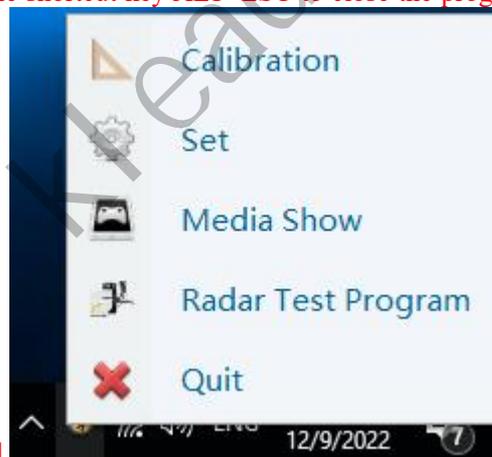
(2) Control the automatic projection switch.

If the serial control line is connected between the projector and the computer, and the [Projection serial device] and the compatible [Projection] are set correctly, you can check [Start the software to open the projector], and the computer software will be turned on automatically, the computer will be turned off regularly, and the projector will be turned off automatically.



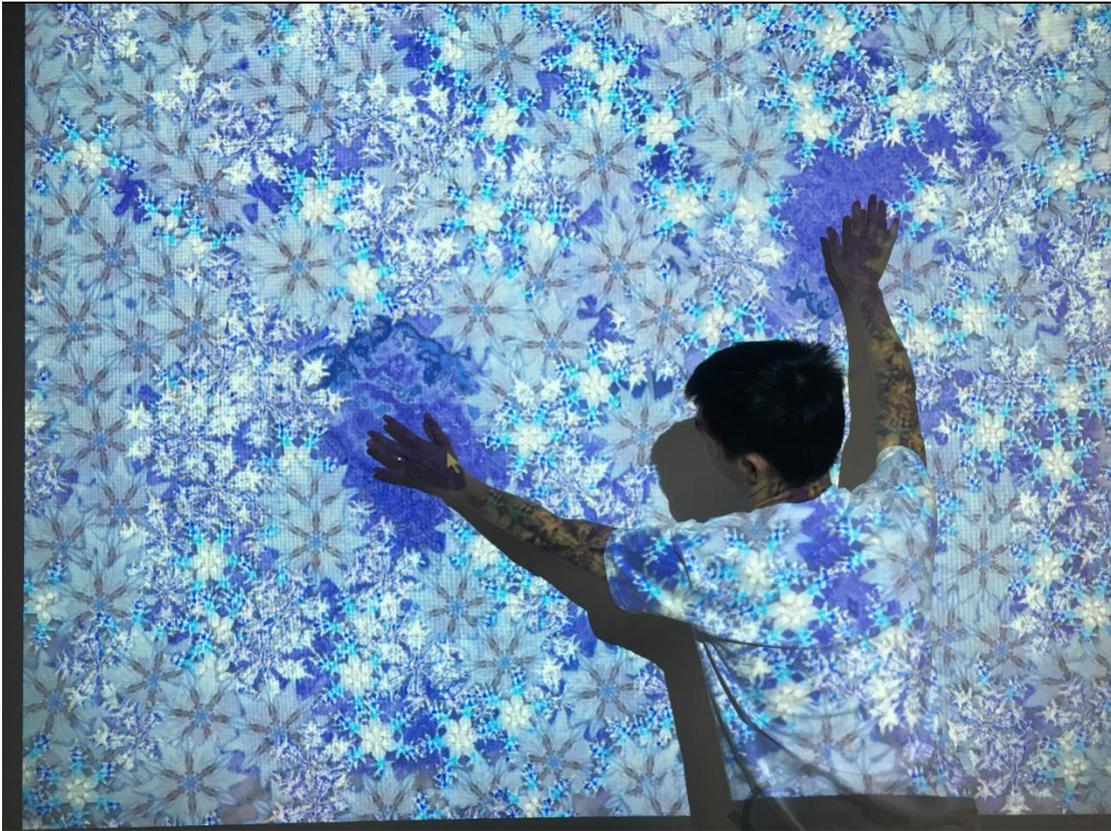
5.9 Save settings

Find the KleaderSoft icon in the lower right corner of the taskbar, right-click the mouse, and click [Quit] to close the program. You can also press the shortcut key ALT+ESC to close the program directly, which is equivalent to



saving all the settings just operated.

After setting, you can have interactive entertainment. As shown in the figure below:



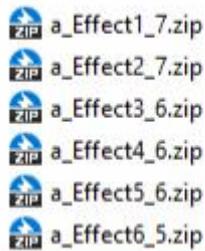
Kleader

VI. Parameter Settings of Interactive Games

Parameter setting of multi-point interaction effect provided by this system

6.1unity_effect game-interactive effect production platform class

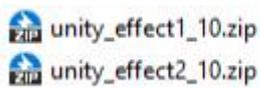
Stretch adaptive full-screen game, there are multiple effects in each category that can be switched and played.



大类	中文	英文	游戏编号	开发位数	背景类型	背景支持	背景是否可替换
a_Effect1_7	冰河裂纹	Glacier_crack	00004	64	图片	平铺	是
	嫦娥奔月	The_Goddess_Chang's_fly_to_the_moon	00005	64	视频	平铺	是
	枫叶散开	The_maple_leaves_spread	00006	64	图片	平铺	是
	五彩五星	Five_colors_and_five_stars	00007	64	视频	平铺	是
a_Effect2_7	光圈星空	Aperture_starry_sky	00008	64	视频	平铺	是
	海底游鱼	Swimming_fish_in_the_sea	00009	64	视频	平铺	是
	花瓣飞舞	Petals_Dancing	00010	64	视频	平铺	是
	金色蝴蝶	Golden_butterfly	00011	64	视频	平铺	是
	玫瑰散开	The_roses_spread	00012	64	图片	平铺	是
	梦幻鱼群	Dream_fish_school	00013	64	视频	平铺	是
	闪电	lightning	00014	64	视频	平铺	是
	梦幻世界	Dream_world	00015	64	视频	平铺	是
	闪亮五角星	Shining_Pentagram	00016	64	视频	平铺	是
	桃花飞舞	Peach_blossom_flying	00017	64	视频	平铺	是
a_Effect3_6	桃花漫舞	Peach_Blossom_Dance	00018	64	视频	平铺	是
	鲜花	flower	00019	64	视频	平铺	是
	星际花海	Interstellar_flower_sea	00020	64	视频	平铺	是
	火箭	rocket	00021	64	视频	平铺	是
a_Effect4_6	玫瑰花开	Smiling_Rose	00022	64	图片	平铺	是
	奇幻魔方	Magic_cube	00023	64	视频	平铺	是
	洒铜钱	Copper_coin	00024	64	图片	平铺	是
	色彩粒子	Color_particles	00025	64	视频	平铺	是
	水墨	Ink_and_wash	00026	64	图片	平铺	是
	穿越时空	Through_time_and_space	00027	64	视频	平铺	是
a_Effect5_6	动感特效	Motion_effects	00028	64	视频	平铺	是
	光效穿梭	Light_shuttle	00029	64	视频	平铺	是
	行尸走肉	a_dead_alive_person	00030	64	视频	平铺	是
	青花蝴蝶	Blue_and_white_butterfly	00031	64	视频	平铺	是
	土爆炸	Soil_explosion	00032	64	图片	平铺	是
	仙境飞鹤	Flying_crane_in_Wonderland	00033	64	视频	平铺	是
a_Effect6_5	宇宙星系	Cosmic_Galaxy	00034	64	视频	平铺	是
	樱花散开	sakura_disperse	00035	64	视频	平铺	是
	向日葵	sunflower	00036	64	视频	平铺	是
	菊花散开	chrysanthemum	00037	64	视频	平铺	是

6.2unity_effect Game-A single effect of software development

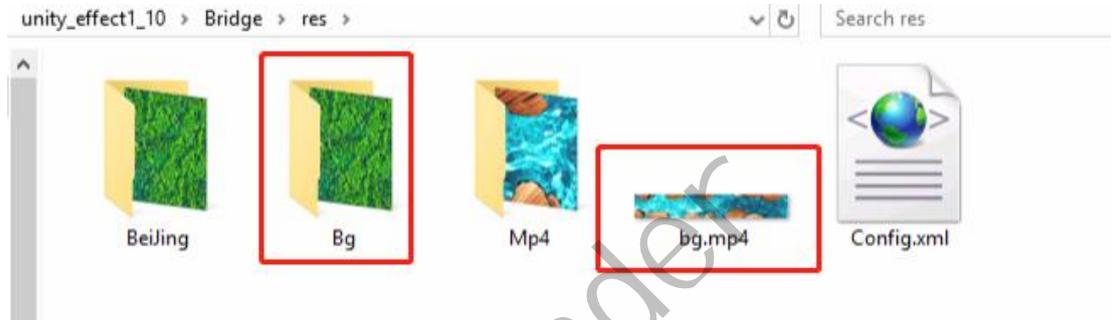
Stretching is not an adaptive full-screen game, and each file in the compressed package corresponds to an interactive effect.



大类	中文	英文	游戏编号	开发位数	背景类型	背景支持	背景是否可替换
软件开发的单个效果	花海互动	FloweSee32	00038	32	无		否
	玻璃栈道碎裂	Broken_glass_plank_road	00039	64	图片	拉伸	是
	道路塌陷	Road_collapse	00040	32	图片	拉伸	是
	钢琴	piano	00041	32	图片	拉伸	是
	水底游鱼	Underwater_fish	00042	32	图片	拉伸	是
	海底游鱼	Pelagic_fish	00043	32	视频	拉伸	是
	互动海浪	Interactive_waves	00044	32	视频	拉伸	是
	冰面塌陷	IceCollapse	00045	32	视频	拉伸	是
	水母互动	Jellyfish_interaction	00046	32	视频	拉伸	是
	荷花游鱼	Lotus_Fish	00047	32	视频	拉伸	是
	桥	Bridge	00048	32	图片	拉伸	是
	桥下出龙	Dragons_emerge_under_the_bridge	00049	32	图片	拉伸	是
	彩虹瀑布	Rainbow_Falls	00050	32	视频	拉伸	是
	水波互动	Water_wave_interaction	00051	32	图片	拉伸	是
	水波纹	water_ripple	00052	32	图片	拉伸	是
	太阳系	solar_system	00053	32	视频	拉伸	是
	雪地脚印	Snow_Footprint	00054	32	图片	拉伸	是
	鲸鱼岛	Whale_Island	00056	64	视频	拉伸	是
	泥地脚印	Muddy_footprint	00057	32	图片	拉伸	是
	烟雾互动	MagicFloor	00058	64	视频	拉伸	是

(1) the replacement of background material:

Under the Res folder, bg.mp4, Bg folder (the background priority is once bg.mp4, bg.jpg
, there are videos and pictures. Priority is given to loading videos as the background)



Other redundant pictures and videos are backups with different resolutions.

(2) Resolution setting:

Res\config.xml (Notepad opens),

<WindowWidth>1920</WindowWidth>

<WindowHeight>1080</WindowHeight>

(3) Size of interactive elements:

<NetSize>0.6</NetSize>

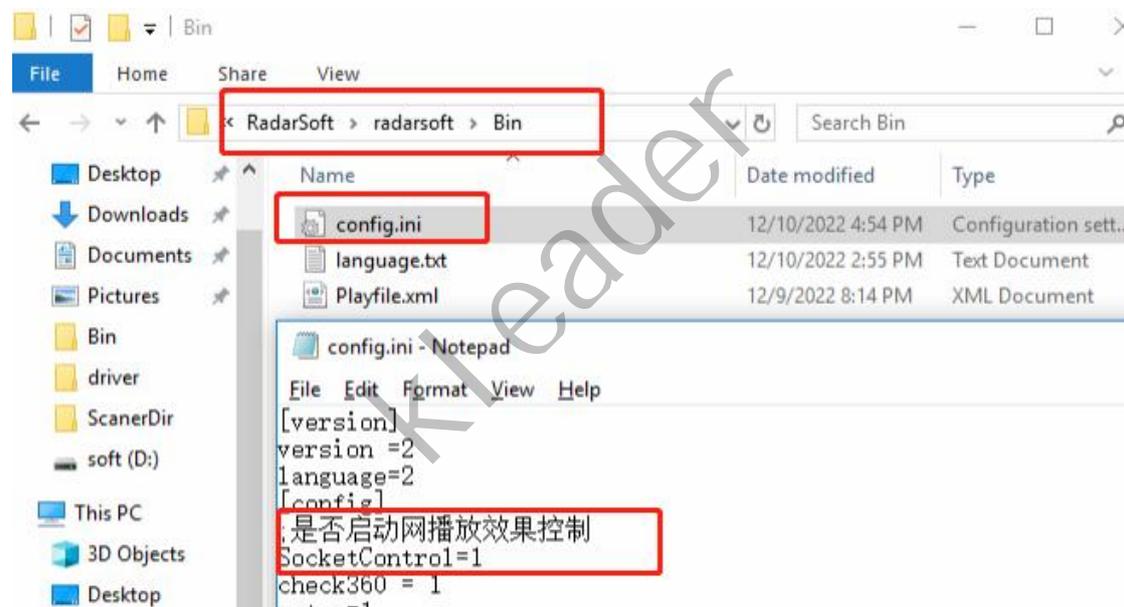
7. Development kit acquisition-develop multi-point games and effects by yourself

SDK package acquisition tutorial:

<https://www.klmultimedia.com/How-to-develop-interactive-effect-installation-video.html>

8. How to use the central control system to switch effects?

Set BIN\config.ini SocketControl=1 under the system.



The system firewall (or antivirus software) must be turned off.

Or add port exceptions.

Port: 9443

Send UDP string command (ascii encoding) (the command is written in case-insensitive)

Interactive system central control code:

Playpre previous effect

Playnext next effect

Play circulate

Stop

Playindex plays the effect of setting serial number Playindex||1: Play the first one, and so on.

Closesoft closes interactive software.

Effective global effective

Ineffective global invalid

Example:

String: Playindex||1

Hexadecimal: 50 6C 61 79 69 6E 64 65 78 7C 7C 31

Playindex||1

50 6C 61 79 69 6E 64 65 78 7C 7C 31

Playindex||2

50 6C 61 79 69 6E 64 65 78 7C 7C 32

Playindex||3

50 6C 61 79 69 6E 64 65 78 7C 7C 33

Playindex||4

50 6C 61 79 69 6E 64 65 78 7C 7C 34

Playindex||5

50 6C 61 79 69 6E 64 65 78 7C 7C 35

Playindex||6

50 6C 61 79 69 6E 64 65 78 7C 7C 36

Playindex||7

50 6C 61 79 69 6E 64 65 78 7C 7C 37

Playindex||8

50 6C 61 79 69 6E 64 65 78 7C 7C 38

Playindex||9

50 6C 61 79 69 6E 64 65 78 7C 7C 39

Playindex||10

50 6C 61 79 69 6E 64 65 78 7C 7C 31 30