

高清智能网络摄像机

HD Intelligent IP Camera

KEDACOM

快速安装指南

Quick Start Guide

一 前言

感谢您购买我司产品，如对本公司产品有疑问或需要，请随时和我们联系。

此内容（手册）的目的是确保用户正确使用本产品，以避免危险或财产损失。在使用产品之前，请认真阅读此手册并妥善保存以备日后参考。如果用户因没有按照以下安全说明，致使设备不能正常使用或损坏等情况，我司恕不负责，感谢您的配合。

二 安全使用注意事项

1. 电源要求

- 请在安装使用设备过程中，严格遵守当地各项电气安全规定。
- 请使用满足安全电压要求的电源，在设备运行之前检查供电电源是否正确。
- 请在安装配线时装入易于使用的断电设备，以便必要时进行紧急断电。
- 请保护电源软线免受踩踏或紧压，特别是插头、电源插座和从装置引出的接点处。
- 请在断电状态下连接电源、告警、音频、RS485等线缆，严禁在设备上电的情况下连线。

2. 使用环境要求

- 请勿将摄像机对准强光（如灯光照明、太阳光等处）聚焦，否则容易引起过亮或漏光现象（这并非摄像机故障）也将影响摄像机寿命。
- 请在允许的湿度和温度范围内运输、使用和存储设备。
- 请勿将设备置于潮湿、多尘、极热、极冷、强电磁辐射或照明条件不稳定等场所。
- 请勿让任何液体流入设备，以免内部元件受损。
- 请勿阻挡设备附近的通风口，以免热量积蓄。
- 请在运送设备时，重新以出厂时的包装进行包装，或用同等品质的材质包装。
- 请勿在运输、储存及安装过程中重压、剧烈震动、浸泡设备。
- 本产品非密封防水设备，不能单独工作于室外露天环境。

工作环境	
工作电源	DC12V±10%/AC24V±10%/POE (802.3af)
功耗	6W Max
温度	-20°C~+60°C
湿度	10%~95% (无凝结)
海拔高度	-60m~3000m
大气压	86kPa~106kPa

3. 日常维护与保养

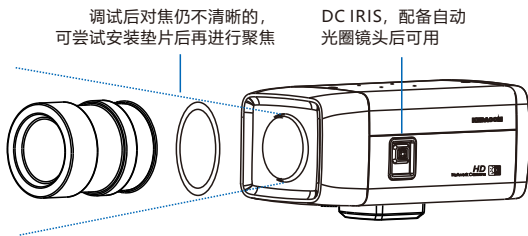
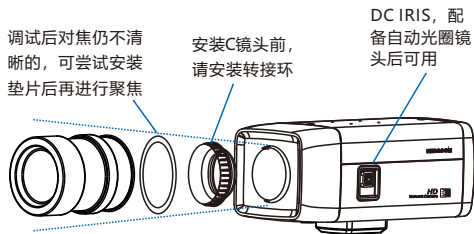
- 请勿直接接触设备发热部件，以免烫伤。
- 镜头沾染灰尘或油脂时，用棉布或镜头擦拭布擦拭。若遇污垢难以清除，蘸上少量镜片清洁剂，自镜头中心向外旋转轻轻擦拭，直到干净为止。禁止使用有机溶剂（苯、酒精等）对镜头和护罩前脸进行除尘、清洁。
- 请不要以任何方式拆卸或修改产品。（对未经认可的修改或维修导致的问题，本公司不承担任何责任）。
- 如果设备工作不正常，请联系经销商或最近的服务中心。

4. 特别声明

- 本手册中的图示仅供参考，产品请以实物为准。
- 我们尽最大努力来保证本手册信息的正确性，如因升级等原因发生信息修改，恕不另行通知。
- 本手册能作为多个型号产品的使用指导，但不一一列举每个产品的使用情况，请您根据实际产品自行对照。
- 本产品使用IPCSearch激活后方能使用，激活时请填写有效邮箱，方便找回密码。IPCSearch请至官网下载，下载地址：<https://www.kedacom.com/cn/softtools/index.jhtml>
- 为了提高产品网络使用的安全性，建议您设置高强度密码：密码长度必须达到8-16个字符，且至少由数字和字母或特殊字符中的两种或两种以上类型组合而成。请您定期更改用户名的密码，建议每3个月更新一次密码。如果设备在较高安全风险的环境中使用，建议每月或每周更新一次。请妥善保管好您的用户名与密码。
- 将本产品接入互联网需自担风险，包括但不限于产品可能遭受的网络攻击、黑客攻击、病毒感染等，本公司不对因此造成的产品工作异常、信息泄露等问题承担责任，本公司将及时为您提供产品相关技术支持。
- 如需获取最新文档，请至官网下载，官网地址www.kedacom.com。

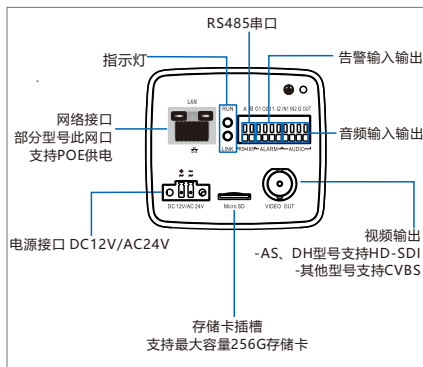
三 安装步骤

1.取下防尘盖，安装镜头。安装CS镜头可直接安装，而安装C型镜头前，请先装配转接环，如图。



【说明】本系列摄像机不支持后焦调节。

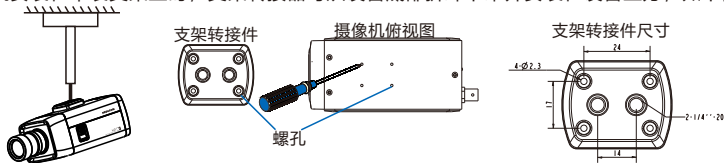
2.连接线缆，上电，接线面板如下图。



【说明】 RUN灯：运行指示灯，绿色，正常上电后快闪（1秒亮、1秒灭），断电后灯灭。
LINK灯：网络状态灯，绿色，正常上电且网络物理联通后快闪（1秒亮、1秒灭），断电或网络物理中断时灯灭。
设备默认出厂不带适配器。若需要请另行购买我司适配器或自行购买。

四 支架安装说明

将摄像机安装在吊装支架上时，支架转接器可从设备底部拆卸下来并安装在设备上方，如下图。



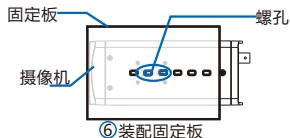
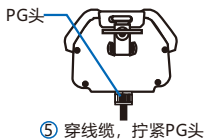
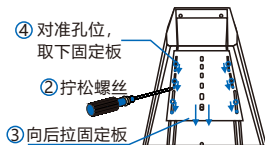
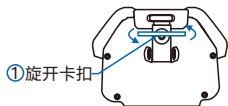
五 外罩安装说明

当摄像机位于室外时，需要装配在防水外罩中，说明如下：

1. 旋开卡扣如图，打开护罩上盖。
2. 使用螺丝刀拧松固定板螺钉，将固定板向后拉，对准孔位取下固定板。

【说明】固定板螺钉拧松即可，无需拧下。

3. 穿好线缆并拧紧 PG 头，建议将 PG 头打胶做防水防尘处理。
4. 将固定板装配在摄像机底部。



5. 将摄像机连同固定板安装在护罩中。

【注意】固定前将摄像机镜头头贴紧护罩前玻璃，不要留明显间隙（只需能调焦），以免出现漏光、光晕现象。

6. 用线缆连接 IPC 的各接口和外罩中的接口板，合上外罩上盖并锁紧。

六 登录客户端

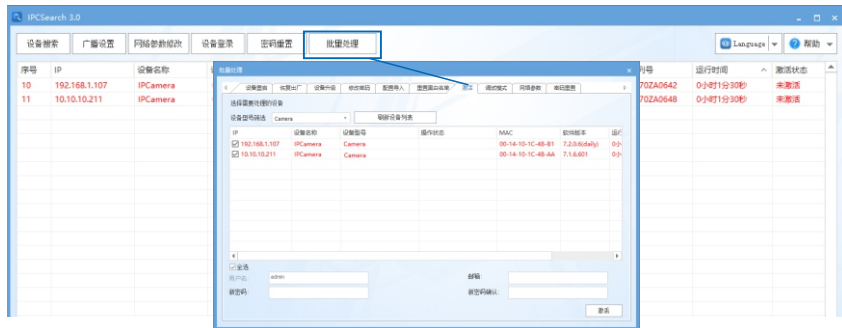
1. 最低配置和系统环境

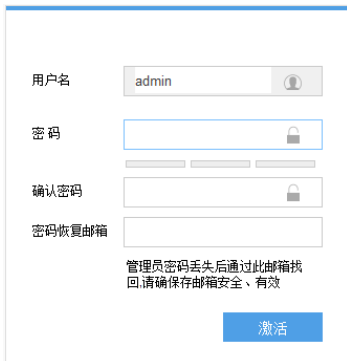
- 处理器：3.3GHz酷睿®i3系列及以上或相同性能的其他处理器
- RAM内存：4GB及以上
- 操作系统：Windows7操作系统或更高版本
- 浏览器（32位）：360浏览器，IE 11，Firefox（51.0及以下版本），Google Chrome（41.0及以下版本）
- DirectX：9.0c

2. 设备激活

第一次使用时请运行IPCSearch，在IPCSearch中将显示设备的IP地址、网关等信息。若IPC设备所接入的网络有DHCP服务，DHCP服务器将自动给IPC分配IP地址。

- 批量激活：在IPCSearch中选中设备，点击**批量处理**，在弹出的界面中设置admin用户的密码和找回密码时需要用的邮箱，点击**激活**按钮激活设备。设备将自动重启。
- 单个激活：在IPCSearch中选择设备，单击右键，选择**设备激活**。填写用户名、密码、找回密码时需要用到的邮箱。点击**激活**按钮激活设备。设备将自动重启。
- Web客户端激活：也可以通过Web客户端激活。将PC机与设备设为同一网段，登录Web界面。可在界面设置管理员密码和密码恢复邮箱，点击**激活**。





用户名

密码

确认密码

密码恢复邮箱

管理员密码丢失后通过此邮箱找回,请确保邮箱安全、有效

3. 修改设备IP

点击**修改网络参数**，在弹出的界面中配置网络参数。静态分配IP地址时，请选择自定义地址，填写以太网参数。修改参数配置，需要填写管理员用户用户名（admin）及激活设备时所设置的密码。完成IP配置后，设备将自动重启。

4. 登录设备

1) 在IPCSearch中双击设备或点击**登录设备**，输入用户名和密码，登录Web客户端。

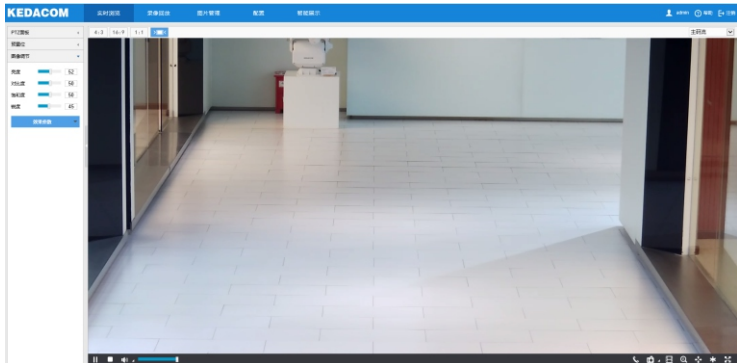


登录

2) 登录成功后，下载并安装视频插件（IE内核浏览器）。

3) 进入客户端后，直接浏览图像。

【说明】不同型号，浏览界面略有差异，请以实际界面为准。更多客户端说明请参考客户端帮助文档。



4) 设备安装TF卡后，需确认TF卡是否已格式化，进入**配置>存储>存储管理**界面查看TF卡状态。如果状态显示为未格式化，需要勾选TF卡，点击**格式化**按钮进行格式化，才可正常使用。格式化过程支持分区，可用于存储录像和图片。



七 快速配置

1. 安装配置

进入**智能展示>智能配置>室内安装配置**界面，点击**安装示意图**，参考示意图进行安装配置，步骤如下：

- 1) 请根据实际的安装环境，并参考架设参数表（详见附录A），选择适宜的安装高度安装摄像机。在安装配置下输入安装高度，相应的水平距离范围显示在输入框之后。然后，确定立杆的位置，测量并输入立杆到摄像机的水平距离，必须在水平距离范围之内。

【说明】安装时，应确保摄像机的安装高度在架设参数表的范围内，且镜头正对抓拍区域。点击**显示倾斜角**可查看摄像机安装的倾斜角度。摄像机镜头的垂直角度范围为 $7.5^{\circ}\sim 15^{\circ}$ ，推荐垂直角度为 13° ，水平角度不得大于 5° ，监控距离约为安装高度的3~4倍。

- 2) 选择横标线的颜色，点击**显示横标线**，则视频画面中央出现2条所选颜色的水平线，即横标线。



- 3) 调节摄像机外罩的倾斜角，手动调节视野的远近，确保视野中立杆上的2条线（高度分别为1.48m和1.62m）分别与视频画面的2条横标线完全重合。

【说明】若无立杆，可通过人员进行调试，确保人员的眉毛和下巴分别与2条横标线重合即可。

- 4) 点击**打开清晰度调节**，界面出现一个红色框，该框内所显示数字为清晰度系数。该系数越大，清晰度越高。手动调节相机使镜头对焦，清晰度系数亦随之变化，清晰度系数最大时表明达到最佳对焦位置。

【说明】

- 1) 目前清晰度显示功能仅在编码格式为H.264或H.265时有效。调节清晰度时，建议用一个纹理丰富的物品做调节板，如报纸等。
- 2) 室内安装配置完成后，点击**保存**。设置才能生效。
- 3) 室内安装完毕后必须进行标定配置。

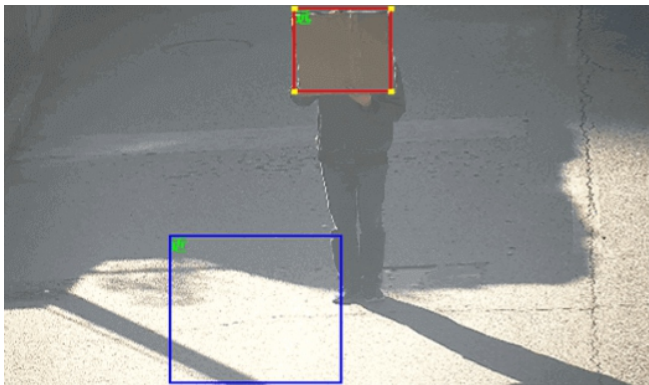
2. 标定配置

进入**智能展示>智能配置>标定配置**界面，标定配置步骤如下：

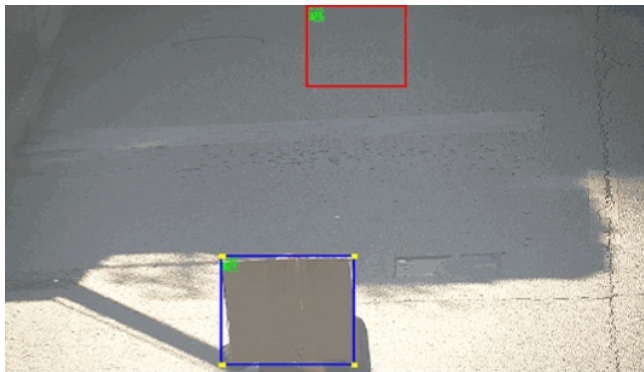
- 1) 当人员手中的木板出现在视野上方并非常接近视野上边沿时，点击**暂停**，调整远景框大小或位置，使远景框与木板重合。

调整框的位置：点击选中相应框并按住鼠标左键不放，拖动该框即可调整其位置。

调整框的大小：点击选中相应框可激活其4个角上的端点，显示为黄色，点击选中某一黄色端点并拉伸或收缩即可调整框的大小。



- 2) 点击**播放**。
- 3) 当人员手中的木板的下边缘与视野下边沿对齐时，点击**暂停**，调整近景框大小或位置，使近景框与木板重合。近景框大小或位置调整同步步骤1)。
- 4) 点击**保存**，参数设置即可生效。



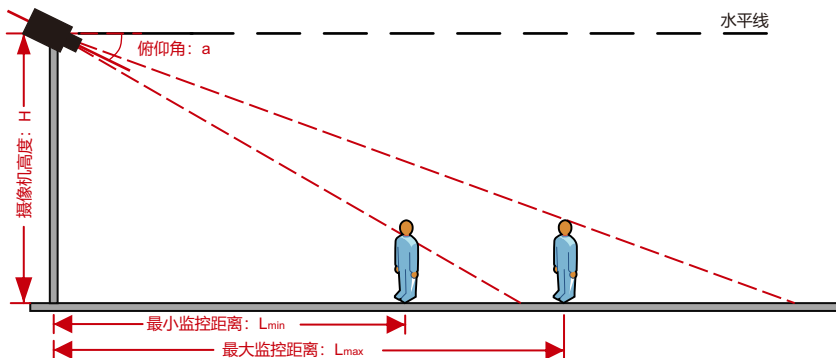
【说明】

- 1) 正方形木板的规格为50cm×50cm，若没有正方形木板，可以通过画面中人员头肩进行标定设置。
- 2) 配置时，人员保持立正姿势，双手握住该木板的两侧，竖直举起立于面前(与人员所在平面平行)，同时确保木板的上边缘与该人员的头顶对齐。
- 3) 为了避免成像畸变，框的中心尽量靠近图像的中垂线。

附录A：架设参数表

搭配3.6-17焦距镜头时（推荐3米以下架设抓拍）				
摄像高度：H	监控距离范围：L	监控角度范围：a	最佳摄像机角度：a	最佳监控宽度
2m	2.5m~6.5m	7.5°~15°	13°	4.5m
2.5m	4m~7m			
3m	5.5m~8m			

搭配12-50焦距镜头时（推荐6米以下架设抓拍）				
摄像高度：H	监控距离范围：L	监控角度范围：a	最佳摄像机角度：a	最佳监控宽度
2m	3m~8m	7.5°~15°	13°	4.5m
2.5m	4m~10m			
3m	6m~12m			
3.5m	8m~14m			
4m	10m~17m			
5m	16m~23m			
6m	18m~25m			



附录B: DC12V线径与传输距离关系表

当线径大小一定, DC12V电压损耗率低于10%时, 不同传输功率推荐的最大传输距离。

(对于DC 12V直流供电设备, 其最大允许电压损耗率为10%。下面表格中所用线缆均为铜线, 铜的电阻率为 $\rho = 0.0175\Omega \cdot \text{mm}^2/\text{m}$)

距离 m(feet)	线径 mm	0.80 (20AWG)	1.00 (18AWG)	1.25 (16AWG)	2.00 (12AWG)
5		38(125)	61(199)	96(315)	244(801)
10		19(63)	30(99)	48(157)	122(400)
15		13(42)	20(66)	32(105)	81(267)
20		10(31)	15(50)	24(79)	61(200)
25		8(25)	12(40)	19(63)	49(160)
30		6(21)	10(33)	16(52)	41(133)
35		5(18)	9(28)	14(45)	35(114)
40		5(16)	8(25)	12(39)	31(100)
45		4(14)	7(22)	11(35)	27(89)
50		4(13)	6(20)	10(31)	24(80)
55		3(11)	6(18)	9(29)	22(73)
60		3(10)	5(17)	8(26)	20(67)
65		-	5(15)	7(24)	19(62)
70		-	4(14)	7(22)	17(57)
75		-	4(13)	6(21)	16(53)
80		-	4(12)	6(20)	15(50)
85		-	4(12)	6(19)	14(47)
90		-	3(11)	5(17)	14(44)
95		-	3(10)	5(17)	13(42)
100		-	3(10)	5(16)	12(40)

- 【说明】** 1) 传输功率超过60W, 需用1.0 (18AWG) 或以上线径;
2) 线径要求适用于单根、实心、圆形的铜线, 多股绞线的电缆AWG, 值由所有线的总横截面积决定。

附录C: AC24V线径与传输距离关系表

当线径大小一定, AC 24V电压损耗率低于10%时, 不同传输功率推荐的最大传输距离。(对于AC 24V交流供电设备, 其最大允许电压损耗率为10%。下面表格中所用线缆均为铜线, 铜的电阻率为 $\rho = 0.0175\Omega \cdot \text{mm}^2/\text{m}$)

距离 m(feet) 功率W	线径 mm	0.8 (20AWG)	1.0(18AWG)	1.25(16AWG)	2.0(12AWG)
5		122 (401)	194 (636)	307 (1008)	781 (2562)
10		61 (201)	97 (318)	154 (504)	391 (1281)
15		41 (134)	65 (212)	102 (336)	260 (854)
20		31 (100)	48 (159)	77 (252)	195 (641)
25		24 (80)	39 (127)	61 (202)	156 (512)
30		20 (67)	32 (106)	51 (168)	130 (427)
35		17 (57)	28 (91)	44 (144)	112 (366)
40		15 (50)	24 (79)	38 (126)	98 (320)
45		14 (45)	22 (71)	34 (112)	87 (285)
50		12 (40)	19 (64)	31 (101)	78 (256)
55		11 (36)	18 (58)	28 (92)	71 (233)
60		10 (33)	16 (53)	26 (84)	65 (214)
65		9 (31)	15 (49)	24 (78)	60 (197)
70		9 (29)	14 (45)	22 (72)	56 (183)
75		8 (27)	13 (42)	20 (67)	52 (171)
80		8 (25)	12 (40)	19 (63)	49 (160)
85		7 (23)	11 (37)	18 (59)	46 (151)
90		7 (22)	11 (35)	17 (56)	43 (142)
95		6 (21)	10 (33)	16 (53)	41 (135)
100		6 (20)	10 (32)	15 (50)	39 (128)

【备注】 线径要求适用于单根、实心、圆形的铜线, 多股绞线的电缆AWG 值是由所有线的总横截面积决定。

保修说明

本保修卡适用于您购买的本公司系列产品。

1. 免费保修期一年（仅限中国大陆地区，中国大陆以外地区请参考英文说明）。
2. 凡保修期内，由于本产品自身引起的故障，请与公司售后服务部联系。
3. 保修时我们将使用您的保修卡信息，请认真填写。
4. 以下情况，属于有偿保修范围：
 - 人为原因造成的设备故障
 - 因使用环境不符合本产品要求造成的故障
 - 因不可抗力造成的产品损坏
 - 无保修卡
 - 已过免费保修期

用户信息

用户名称：

详细地址：

传真：

电话：

邮箱：

邮编：

产品名称：

产品型号：

购买日期：

I Preface

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact us.

The intention of writing this Guide is to ensure that user can use the product correctly to avoid danger or property loss. Please read this Guide carefully before using, and keep it properly for future reference. If the product cannot work normally or is damaged because the user does not follow the safety instructions, we shall not assume any responsibility. Your cooperation will be highly appreciated.

II Safety Instruction

1. Power Supply

- During installing and using the device, please follow local electrical safety regulations strictly.
- Please use power supply in the safe voltage range of our product. Make sure the power supply is correct before running the device.
- Please install an easy-to-use breaker during installation and wiring in case it is necessary to make an emergency break.
- Please prevent the power cord from being trampled or pressed especially the plug, socket and the connecting part led out from the device.
- Please connect cables of power, alarm, audio and RS-485 with the power off. Hot-line wiring is not allowed.

2. Working Environment

- Do not focus the camera lens on strong light such as the sun or incandescent lamp; otherwise the strong light will cause overexposure or light leak (not camera malfunction), which may shorten camera lifetime.
- Please transport, use and store the device within defined humidity and temperature ranges.
- Do not expose it in damp, dusty, extremely hot or cold places or places with intense electromagnetic radiation or with unstable lighting.
- Keep the camera away from water or any liquid to avoid damage to internal components.
- To avoid heat accumulation, please do not block the ventilation around the device.
- While shipping the camera, pack it in the factory packing or use materials with equivalent quality.
- When shipping, storing and installing the device, try to prevent it from damages caused by pressure, violent vibration and soaking.
- This device is not waterproof and cannot work outdoor in the open air alone.

Operating Environment	
Voltage	DC12V±10%/AC 24V±10%/PoE(802.3af)
Power Consumption	6W Max
Temperature	-20°C ~ +60°C
Humidity	10%~95% (non-condensing)
Altitude	-60m~3000m
Pressure	86kPa~106kPa

3. Daily Maintenance

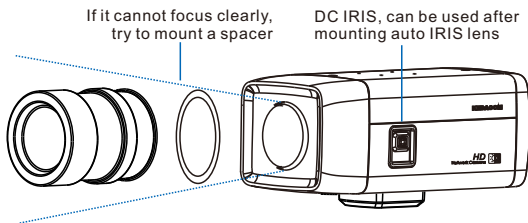
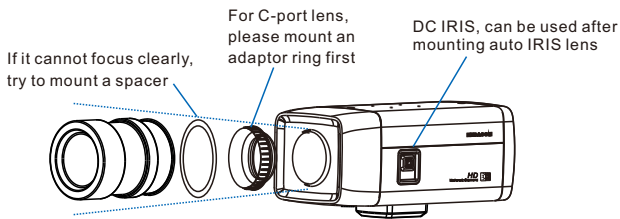
- Do not touch the heat component of the device directly to avoid empyrosis.
- When the lens is contaminated by dust or grease, use cotton cloth or lens clean cloth to wipe it off. When it is hard to clean, dip some lens cleanser and wipe gently and rotate outward from the middle until it is clean. Never apply any organic solvent with ethanol or benzene to clean the lens and housing.
- Do not disassemble or repair the device in any way by yourself. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- If the product does not work properly, please contact your dealer or the nearest service center.

4. Special Statement

- The product appearance is subject to the actual device. Pictures in this Guide are for your reference only.
- Every effort has been made to ensure the accuracy and validity of this Guide. Any update of this Guide caused by version upgrade is subject to change without notice.
- This Guide is made for multiple models but it will not illustrate all models one by one. Please refer to it according to the actual products you are using.
- This device can be used after being activated through IPCSearch. During activation please fill a valid email address for finding back the password. You can download IPCSearch from our website, address: <https://www.kedacom.com/cn/softtools/index.jhtml>
- For safety's concern, it is strongly recommended that you set a strong password which is composed of at least 2 kinds of the following, digits, case-sensitive letters or specific symbols, and whose length ranges from 8 to 16 bits. Please modify the password periodically and once every 3 months is recommended. If the device is used in highly risky environment, suggest modifying the password monthly or weekly. Please keep your user name and password safe.
- You should be responsible for all risks of accessing the camera to the Internet, including but not limited to possible cyber-attack, hacking attack, virus infection and etc. This company is not responsible for product failures and information disclosure caused thereby, but will provide timely technical support for the camera.
- For the latest files, please download from our website www.kedacom.com.

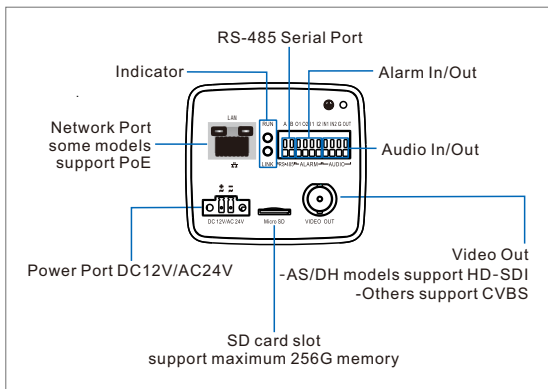
III Installation

1. Remove the dust cover and mount the lens. CS-port lens can be mounted directly while C-port lens requires an adaptor ring, as shown below.



[Note]: This series of cameras do not support back focus adjusting.

2. Connect cables and power on the device. The wiring interface is shown below.



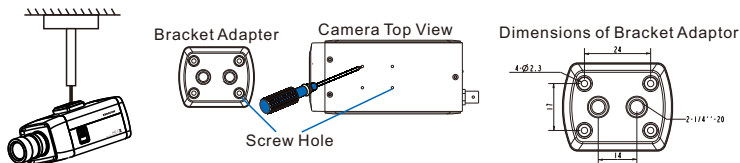
[Note]

RUN Light: operation indicator, green, flashes (1s on, 1s off) after power on, and light off after power off.
LINK Light: network status indicator, green, flashes (1s on, 1s off) after power on and be networked, light off when powered off or disconnected.

The device goes out without an adaptor by default. Please purchase an adaptor from this company or otherwise separately if necessary.

IV. Mount Bracket

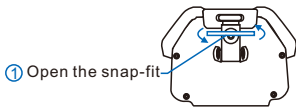
When mount the camera on a ceiling mount bracket, the bracket adapter can be taken apart from the bottom of the device and be mounted on the top of the device, as the picture shows.



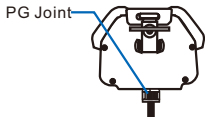
V. Mount Housing

When the camera works outdoor, it should be installed in a water-proof housing, steps:

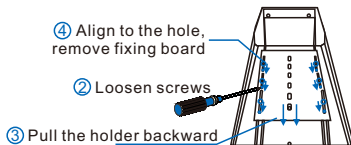
1. Unscrew the snap-fit and open the cover of the housing, as the picture shows.
 2. Use a screwdriver to loosen the screws on the holder, pull the holder backward and take it from the holes.
- [Note]: Only have to loosen the screws on the holder without screwing them off.
3. Thread wires and screw up the PG joint. Suggest making waterproof and dustproof treatments to the PG joint.
 4. Fix the holder at the bottom of the camera.



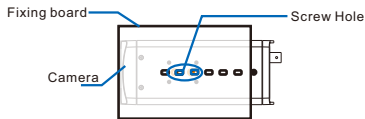
① Open the snap-fit



⑤ Route cables & tighten PG joint



③ Pull the holder backward



⑥ Assemble fixing board

5. Install the camera together with the holder inside the housing.

[Attention] Before fixing, put the camera lens close to the window of the housing without any obvious gap (gap only enough for focusing) to avoid light leak or halo.

6. Connect camera ports to the connector board on the housing, cover the housing and lock it up.

VI Login to the Web Client

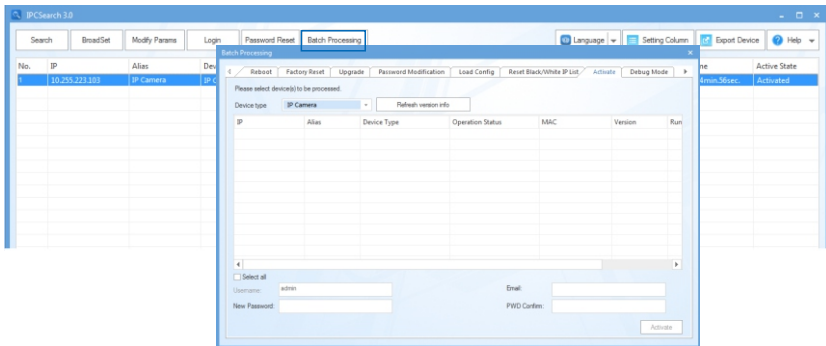
1. Minimum System Configurations and Requirements

- Processor: 3.3 GHz CORE®i3 series or other equivalent processors
- RAM Memory: 4GB or above
- Operating System: Windows 7 or later
- Browser (32-bit): 360 browser, IE11, Firefox (51.0 and lower), Google Chrome (41.0 and lower)
- DirectX : 9.0c

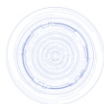
2. Device Activation

When using the device for the first time, IPCSearch will display the device IP address, gateway and etc. If the network provides DHCP service, DHCP server will assign IP for the camera automatically.

- Batch: Select the device and click "**Batch processing**". In the popup interface, set admin user's password and the email address to find back the password. Click "**Activate**" and wait for rebooting.
- Individual: Select the device from IPCSearch and right click to select "**Activate**". Fill admin user name and password and the e-mail address to find back the password. Click "**Activate**" and wait for rebooting.
- Web client: the device can also be activated through the web client. Set PC and the device in the same network segment and login to the web. User can set admin password and password reset email on the interface and click "**Activate**".



Login



admin

admin

Weak Strong

Please choose a password with 8-16 characters. Your password must also contain two or more combinations of upper and lowercase letters, numbers, and symbols.

admin

admin

When admin's password gets lost, find it back through this email. Make sure this email address is safe and valid.

Active

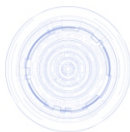
3. Modify Device IP Address

Click **"Modify Params"** and set the network parameters. When configuring a static IP for the camera, please check **"Custom device address (Close DHCP)"** and fill the Ethernet parameter. During the modification, the user name (admin) and the password set before activation should be entered. After configuration, the camera will reboot automatically.

4. Login to the Device

- 1) Double click the device in IPCSearch or click **"Login"**. Enter user name and password to login the web client.

Login



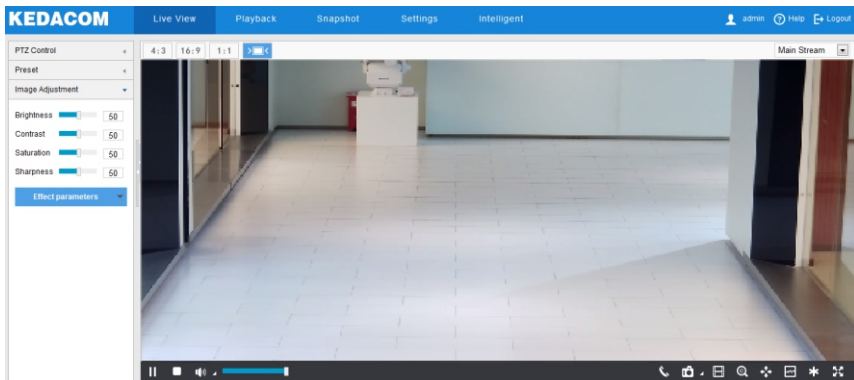
admin

admin

Login

- 2) After login, download and install the plug-in (IE Kernal browser).
- 3) Re-login to the web client and view live video directly.

[Note]: Interface of different models may differ. Please subject to the actual product. Please refer to the *Help* file for detailed explanation.



- 4) After installing the TF card, you need to confirm if the TF card has been formatted. Go to **Settings > Storage > Storage Management** to view TF card status. If it is unformatted, select the TF card and click "**Formatting**" to format it and it will work normally. The formatting supports partitioning to store videos and pictures.

Storage Management

Disk Full Strategy:

Storage Device List

Disk ID	Capacity	Remaining Space	Status	Type	Attribute	Progress
<input type="checkbox"/> 1	0M	0M	Does not Exist	Local External	Read-write	

Snapshot

Event	Scheduled	Alarming
Local storage	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
FTP	<input type="checkbox"/>	<input type="checkbox"/>

VII Quick Settings

1. Installation Configuration

Go to **Intelligent > Settings > Install Inside**. Click **"Installation Diagram"** and configure according to the diagram, steps as follows:

- 1) Select proper installation height for the camera according to the actual environment and Appendix A: Reference of Installation Parameters. Select **"Install Height"** according to the actual installation and the range of **"Horizontal Distance"** is in the brackets. Then confirm the pole's position, measure and input the horizontal distance between the pole and the camera, which must be in the range.

[Note] During installation, make sure the installation height of the camera is in the reference range and the lens faces rightly toward the surveillance area. Click **"Show Angle"** to view the camera angles. The tilt angle range is $7.5^{\circ} \sim 15^{\circ}$, and 13° is recommended; the pan angle should be within 5° ; the surveillance distance is about 3 ~ 4 times of the installation height.

- 2) Select color for the horizontal line. Click **"Show Line"** and there will be 2 horizontal lines showing in the image in the selected color.

The screenshot displays the 'Installation Diagram' configuration window. On the left, 'Step 1' includes 'Install Height' set to 2, 'Horizontal Distance' set to 0 (range 2-4), and 'Show Line' set to red. 'Step 2' includes 'Open Clarity Adjust'. The main image shows a woman in a striped shirt with two horizontal red lines overlaid on her face. Green text annotations indicate 'The point of 1.62m is marked as site A' at the top line, 'The point of 1.48m is marked as site B' at the bottom line, and 'The horizontal distance between the two adjustment pole and the camera: L' between the lines.

- 3) Adjust the slant angle of camera housing and lens zooming to make sure that the 2 lines on the pole (1.48m and 1.62m high) coincide with the 2 horizontal lines in the image completely.

[Note] If there isn't a pole in the scene, find a person to calibrate. Make sure the eyebrow and the jaw coincide with the 2 horizontal lines.

- 4) Click **"Open Clarity Adjust"** and a red frame will display in the picture, showing the clarity coefficient. The larger the coefficient is, the higher the clarity will be. Click icons of **"Focus far"**, **"Focus near"** and **"Auto focus"** to make the lens focus and the clarity coefficient will change accordingly. When the coefficient comes to the max, it means the camera has reached the best focus position.

[Note]

- 1) The clarity display function is available when the encoding format is H.264 or H.265. When adjusting image clarity, suggest using a richly-textured object as the adjustment board, such as newspaper.
- 2) After finishing indoor installation configuration, click **"Save"** to validate settings.
- 3) After finishing indoor installation, calibration must be performed.

2. Calibration

Go to **Intelligent > Settings > Calibration** and configure, steps as follows:

- 1) When the board in the person's hands appears in the image and is very close to the top of the image, click **Pause** and adjust the size and position of far square frame to make it match with the board.

Adjust frame size: Left-click to select the red frame and drag the yellow dots at the 4 angles to adjust the size of the frame;

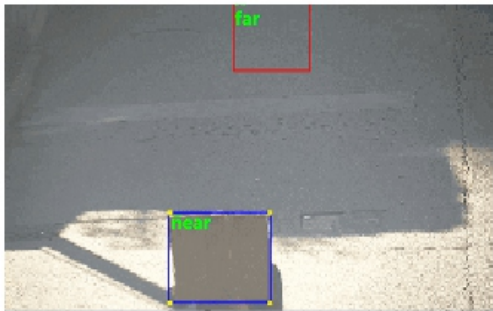
Adjust frame position: Left-click to select the red frame and drag the frame to move its position.



- 2) Click **"Play"**.
- 3) When the lower edge of the board in his hands aligns to the bottom of the image, click **"Pause"** and adjust the size and position of near square frame to make it match with the board. Adjustment of the size and position of near frame is the same as that in step 1).
- 4) Click **"Save"** to validate settings.

[Note]

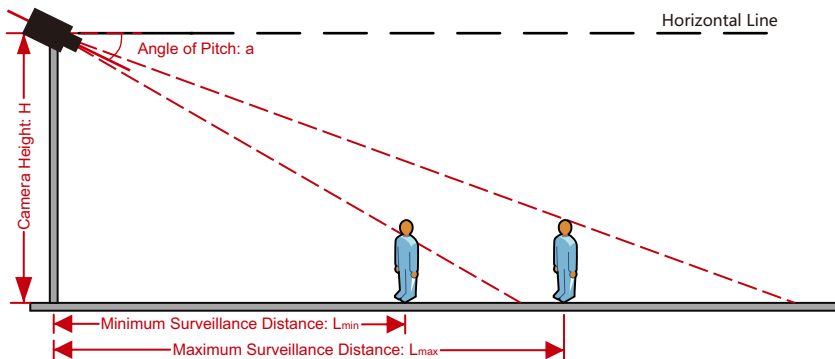
- 1) The size of the square board is 50cm×50cm. If there is no square board, find a person and calibrate with his/her head and shoulder.
- 2) During configuration, the person should stand at attention and grip the sides of the board, lifting it straight upward (parallel to his face). Meanwhile, make sure the upper edge of the board aligns to the top of his head.
- 3) To avoid imaging distortion, the center of the square frames should be as close to the mid-perpendicular of the image as possible.



Appendix A: Reference of Installation Parameters

When using lenses with focal length of 3.6 mm-17 mm (recommend installation below 3 m)				
Camera Height: H	Surveillance Distance: L	Camera Angle of Pitch: a	Optimum Camera Angle: a	Optimum Surveillance Width
2 m	2.5 m~6.5 m	7.5°~15°	13°	4.5 m
2.5 m	4 m~7 m			
3 m	5.5 m~8 m			

When using lenses with focal length of 12 mm-50 mm (recommend installation below 6 m)				
Camera Height: H	Surveillance Distance: L	Camera Angle of Pitch: a	Optimum Camera Angle: a	Optimum Surveillance Width
2 m	3 m~8 m	7.5°~15°	13°	4.5 m
2.5 m	4 m~10 m			
3 m	6 m~12 m			
3.5 m	8 m~14 m			
4 m	10 m~17 m			
5 m	16 m~23 m			
6 m	18 m~25 m			



Appendix B: DC12V Wire Diameter VS. Transmission Distance

The recommended max transmission distance when the wire diameter is certain and the DC12V voltage loss rate is less than 10%

(For DC12V powered devices, the maximum allowed voltage loss rate is 10%. All the wires in the following table are cooper wires, whose electrical resistivity is $\rho = 0.0175\Omega \cdot \text{mm}^2/\text{m}$)

Distance m (feet) Power W	Diameter mm	0.8 (20AWG)	1.0 (18AWG)	1.25 (16AWG)	2.0 (12AWG)
5		38 (125)	61(199)	96(315)	244(801)
10		19(63)	30(99)	48(157)	122(400)
15		13(42)	20(66)	32(105)	81(267)
20		10(31)	15(50)	24(79)	61(200)
25		8(25)	12(40)	19(63)	49(160)
30		6(21)	10(33)	16(52)	41(133)
35		5(18)	9(28)	14(45)	35(114)
40		5(16)	8(25)	12(39)	31(100)
45		4(14)	7(22)	11(35)	27(89)
50		4(13)	6(20)	10(31)	24(80)
55		3(11)	6(18)	9(29)	22(73)
60		3(10)	5(17)	8(26)	20(67)
65		-	5(15)	7(24)	19(62)
70		-	4(14)	7(22)	17(57)
75		-	4(13)	6(21)	16(53)
80		-	4(12)	6(20)	15(50)
85		-	4(12)	6(19)	14(47)
90		-	3(11)	5(17)	14(44)
95		-	3(10)	5(17)	13(42)
100		-	3(10)	5(16)	12(40)

[Note] 1) When the transmission power is over 60W, you must use wires with diameter of 1.0 (18AWG) or above;

2) The requirements of diameter apply to single, solid and round cooper wire. The AWG value of multi-stranded wires depends on the total CSA (Cross Sectional Area) of all wires.

Appendix C: AC24V Wire Diameter VS. Transmission Distance

The recommended max transmission distance when the wire diameter is certain and the AC24V voltage loss rate is less than 10%

(For AC24V powered devices, the maximum allowed voltage loss rate is 10%. All the wires in the following table are cooper wires, whose electrical resistivity is $\rho = 0.0175\Omega \cdot \text{mm}^2/\text{m}$)

Distance m (feet) Power W	Diameter mm 0.8 (20AWG)	1.0(18AWG)	1.25(16AWG)	2.0(12AWG)
5	122 (401)	194 (636)	307 (1008)	781 (2562)
10	61 (201)	97 (318)	154 (504)	391 (1281)
15	41 (134)	65 (212)	102 (336)	260 (854)
20	31 (100)	48 (159)	77 (252)	195 (641)
25	24 (80)	39 (127)	61 (202)	156 (512)
30	20 (67)	32 (106)	51 (168)	130 (427)
35	17 (57)	28 (91)	44 (144)	112 (366)
40	15 (50)	24 (79)	38 (126)	98 (320)
45	14 (45)	22 (71)	34 (112)	87 (285)
50	12 (40)	19 (64)	31 (101)	78 (256)
55	11 (36)	18 (58)	28 (92)	71 (233)
60	10 (33)	16 (53)	26 (84)	65 (214)
65	9 (31)	15 (49)	24 (78)	60 (197)
70	9 (29)	14 (45)	22 (72)	56 (183)
75	8 (27)	13 (42)	20 (67)	52 (171)
80	8 (25)	12 (40)	19 (63)	49 (160)
85	7 (23)	11 (37)	18 (59)	46 (151)
90	7 (22)	11 (35)	17 (56)	43 (142)
95	6 (21)	10 (33)	16 (53)	41 (135)
100	6 (20)	10 (32)	15 (50)	39 (128)

[Note]:

The requirements of diameter apply to single, solid and round cooper wire. The AWG value of multi-stranded wires depends on the total CSA (Cross Sectional Area) of all wires.

Kedacom Two (2) Year Limited Hardware Warranty

WHAT IS COVERED BY THIS WARRANTY?

Kedacom warrants the Kedacom-branded hardware product and accessories contained in the original packaging (hereinafter referred to as "Kedacom Product") against defects in materials and workmanship when used normally in accordance with Kedacom's published guidelines for a period of TWO (2) YEARS from the date of original retail purchase in areas other than mainland China by the end-user purchaser (hereinafter referred to as "Warranty Period"). For the Kedacom Product purchased in mainland China, see the simplified Chinese version of this warranty for details. Kedacom's published guidelines include but are not limited to information contained in technical specifications, user guides, and service communications. The preceding applies unless otherwise agreed in the contract.

WHAT IS NOT COVERED BY THIS WARRANTY?

This warranty does not apply to any non-Kedacom branded hardware products or any software, even if packaged or sold with Kedacom hardware. Manufacturers, suppliers, or publishers, other than Kedacom, may provide their own warranties to you but Kedacom, in so far as permitted by law, provides their products "AS IS". Software distributed by Kedacom with or without the Kedacom brand (including, but not limited to system software) is not covered by this warranty. Please refer to the licensing agreement accompanying the software for details of your rights with respect to its use. Kedacom does not warrant that the operation of the Kedacom Product will be uninterrupted or error-free. Kedacom is not responsible for damage arising from failures to follow instructions relating to the Kedacom Product's use.

This warranty does not apply: (a) to consumable parts, such as batteries, unless failure has occurred due to a defect in materials or workmanship; (b) to cosmetic damage, including but not limited to scratches, dents, and broken plastic on ports; (c) to damage caused by use with another product; (d) to damage caused by acts outside the control of Kedacom, including without limitation acts of God, accidents, abuse, misuse, fire, storms, earthquakes, flood, or other external cause; (e) to damage caused by exposure of the product to heat, bright light, sun, liquids, sand, or other contaminants; (f) to damage caused by operating the Kedacom Product outside Kedacom's published guidelines; (g) to damage caused by service (including upgrades and expansions) performed by anyone other than a representative of Kedacom, Kedacom employee, or authorized Kedacom agent; (h) to an Kedacom Product that has been modified to alter functionality or capability without the written permission of Kedacom; (i) to defects caused by normal wear and tear or otherwise due to the normal aging of the Kedacom Product, or (j) if any serial number has been removed or defaced from the Kedacom Product.

YOUR RESPONSIBILITIES

If your Kedacom product is capable of storing data and other information, you should make periodic backup copies of the information contained on the storage media to protect the contents and as a precaution against possible operational failures.

Before receiving warranty service, Kedacom or its authorized agents may require that you furnish proof of purchase details, respond to questions designed to assist with diagnosing potential issues, and follow Kedacom's procedures for obtaining warranty service. Before submitting your Kedacom Product for warranty service, you should maintain a separate backup copy of the contents of its storage media, remove all personal information that you want to protect, and disable all security passwords.

During warranty service, it is possible that the contents of the Kedacom product's storage media will be lost, replaced or reformatted. In such an event, Kedacom and its authorized agents are not responsible for any loss of data or other information contained on the storage media or any other part of the Kedacom product serviced.

Following warranty service, your Kedacom Product or a replacement product will be returned to you as your Kedacom Product was configured when originally purchased, subject to applicable updates. You will be responsible for reinstalling all other data and information. Recovery and reinstallation of other data and information are not covered under this warranty.

WHAT WILL KEDACOM DO IF THE WARRANTY IS BREACHED?

If during the Warranty Period, you submit a valid claim to Kedacom or an authorized Kedacom agent, Kedacom will, at its option, (i) repair the Kedacom Product using new or previously used parts that are equivalent to new in performance and reliability, or (ii) exchange the Kedacom Product for a refund of your purchase price.

A Kedacom replacement part or product, including a user-installable Kedacom part that has been installed in accordance with instructions provided by Kedacom, assumes the remaining warranty of the Kedacom Product or ninety (90) days from the date of replacement or repair, whichever provides longer coverage for you. When a product or part is replaced or a refund provided, any replacement item becomes your property and the replaced or refunded item becomes Kedacom's property.

Kedacom reserves the right to refund the purchase price as its exclusive warranty remedy.

HOW TO OBTAIN WARRANTY SERVICE?

To seek warranty service, please contact a local authorized Kedacom agent. When contacting the agent via telephone, other charges may apply depending on your location.

User Information

Complete the form below and keep for ready reference.

User Name:	
Address:	Postal Code:
Tel:	Mobile:
Fax:	E-Mail:
Product Name:	Product Model:
Date of Purchase:	

客户咨询热线：400-828-2866

KEDACOM

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