

网络摄像机

用户手册

QNE-6080RV/QNE-7080RV
QNE-6080RVW/QNE-7080RVW

网络摄像机 用户手册

版权

©2018 Hanuwa Vision Co., Ltd. 版权所有。

商标

本文件中的每个商标均经过注册。本产品的名称以及本手册中提到的其他商标均为各自公司的注册商标。

限制

本手册受著作权保护。未经正式授权，在任何情况下均不得复制、传阅或更改本文件或其任何部分。

免责声明

Hanuwa Vision 尽力验证本文档中内容的完整性和正确性，但不能提供正式保证。

使用本文档及所产生的结果完全由用户自行负责。

Hanuwa Vision 保留更改本文档的内容而不提前通知的权利。

❖ 设计和规格可能会随时更改，恕不提前通知。

❖ 初始管理员ID为“admin”，而密码则应在首次登录时设置。

请每三个月更改一次密码，以妥善保护个人信息并防止信息泄露造成的损害。

请注意，由于没有妥善管理密码而造成安全或其他方面的问题，由用户自行承担。

重要的安全说明

1. 请阅读这些说明。
2. 请您妥善保存这些说明。
3. 请您遵守所有的操作说明。
4. 请您注意所有的警告说明。
5. 请您不要在水源附近运行本机器。
6. 使用柔软干布或湿布清洁产品表面的污染区域。
(请勿使用含有酒精、有机溶剂或表面活性剂、或含油成分的清洁剂或化妆品, 此类物质可能使产品变形或受损。)
7. 请您不要堵塞通风口, 在装入机器时, 请您注意制造商的说明。
8. 请您不要将此机器放置在热源附近, 如散热器, 炉子或其它发热设备。
9. 请您绝对不要移去双线插头或有接地插头的的安全装置, 双线插头有两个不同宽度的插塞接点, 接地插头有两个插塞接点和第三个接地接点。较宽的插塞接点或附加的接地接点是用来确保您的安全的, 如果随同供货的插头规格不适合您的插座, 请您委托电工更换适当的插座。
10. 请您正确铺设电源线, 使其不会被踩踏和尖角损坏。请您尤其注意插头处, 加长电缆和电线延伸到机器处必须具备充分的保护。
11. 请您使用制造商推荐的附加设备或配件。
12. 仅可使用厂商指定或随设备出售的运载车、支脚、三脚架、支架或工作台。使用运载车时, 请小心避免在移动运载车/设备组合时翻覆。
13. 在雷雨天气或长时间不用的情况下, 请拔下本设备的插头。
14. 请您委托具备资格的售后服务人员进行保养工作。出现以下情况时, 有必要进行保养, 例如当机器被损坏时(如电线或插头损坏), 有物体或液体进入到机器内部时机器受到雨淋或潮湿后, 机器运行不正常或摔落在地上时。
15. 本产品必须由标有“Class 2”或“LPS”的合格电源部件进行供电, 且各产品的额定值是最小电流下额定电压为12 Vdc。
16. 如安装产品时用力过大, 摄像机可能损坏并出现故障。
如使用不符合规定的工具强行安装产品, 产品可能损坏。
17. 请勿将产品安装在存在或可能生成化学物质或油雾的地方。大豆油等食用油可能导致产品损坏或变形, 因此请勿将产品安装在厨房或厨房柜台附近。
这可能导致产品损坏。
18. 安装产品时, 请注意不要使产品表面接触到化学物质。
某些化学溶剂, 如清洁剂或粘合剂可能导致产品表面严重受损。
19. 如未按照建议方法安装/组装产品, 产品功能/性能可能受到影响。
安装产品时请参阅用户手册中的“安装与连接”部分。
20. 在水下安装或使用本产品可能导致产品严重损坏。



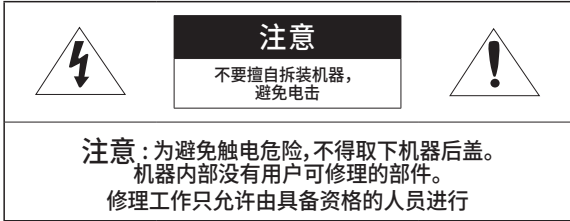
警告

为防止火灾或电击等引起的破坏, 不要把产品暴露于水中或潮湿处。请勿穿过设备上的通风栅格或其他开口插入任何金属物体。

请勿将设备放置于滴水或溅水的地方, 且勿将装有水的物体(如花瓶)放在设备上面。

为了避免造成人身伤害, 必须按照安装说明牢固地把本设备固定在墙壁/天花板上。

注意



图形符号说明



等边三角形内带箭头的闪电符号用于警告用户: 产品机壳内存在“危险电压”, 其电压量足以对人员构成电击危险。



等边三角形内的感叹号用于警告用户: 产品附带的文字中包含重要的操作和维护(维修)说明。

概述

CLASS I 构造

具有 CLASS I 构造的设备应连接到具有保护接地连接的电源插座。

电池

电池（安装的电池组或电池）不得暴露在过多的热量下（如阳光、火焰或类似物体）。

断开设备

如果设备出现故障，请拔下其电源插头。并请致电当地的维修人员。

当在美国以外使用时,可以利用所用的 HAR 代码和许可代理机构的接待处。

注意

如更换的电池类型不正确，可能发生爆炸。
按照说明妥当处理废旧电池。

这些维修说明仅供合格的维修人员使用。
为减少电击的危险，除了操作说明中所描述的之外，请勿执行其他任何维修工作，除非您合格这么做。

请将输入电源仅用于一部摄像机，并且不能连接其他设备。

ITE 只能连接到 PoE 网络，无需路由到外部工厂。

产品内有害物质信息

部件名称	有毒有害物质元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 Cr (VI)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印制电路板组件	×	○	○	○	○	○
金属部品	×	○	○	○	○	○
电缆	×	○	○	○	○	○
塑料部品	○	○	○	○	○	○

○：部品中有毒有害物质含量在(含量标准)的标准值内。

×：部品中有毒有害物质含量超出(含量标准)的标准值。

本表格表明机器内部含有有害物质,数据是根据部件类型,由部件制作商提供并在Hanwha Vision内部验证后做成的。
某些部品包含的有害物质,按照现在的技术基准不能替代,Hanwha Vision一直在为改善此项而努力。

请仔细阅读以下建议的安全预防措施。

- 请勿将本设备放置于不平的表面上。
- 请勿安装在暴露在直射阳光下、靠近供暖设备或非常寒冷区域的表面上。
- 请勿将本设备放置在传导物体附近。
- 请勿自行维修本设备。
- 请勿将一杯水放在产品上。
- 请勿安装在任何磁源附近。
- 请勿堵塞任何通风口。
- 请勿在产品上放置任何重物。
- 在安装/拆卸摄像机时，请佩戴防护手套。
产品表面温度较高，可能有烫伤的危险。

用户手册是如何使用产品的指导书。

书中所用符号的含义如下。

- 参考：用于提供产品用法的帮助信息
- 注意：如果不遵照说明是否有可能对物品和人员造成任何损害
- ※ 在使用物品之前请阅读本手册以保证安全，并将它保存在安全的地方。

在某些安装环境下，可能会发生无线通信干扰。
如果产品和附近的无线通信设备之间发生电磁干扰，建议增加与无线通信设备的距离或调整通信天线的方向。

概述

3

3

安装与连接

9

9

网络连接和设置

17

17

3

6

6

6

7

8

重要的安全说明

推荐 PC 技术规格

建议的 Micro SD/SDHC/SDXC 存储卡规格

NAS 建议规格

随机提供的物品

简图

9

13

14

安装

插入/取出 Micro SD 存储卡

与其他设备连接

17

17

18

18

19

19

21

21

22

22

在LAN环境下直接安装摄像机

将摄像机直接连接至基于 DHCP 的 DSL/有线电视网调制解调器

直接将摄像机连接到 PPPoE 调制解调器

将摄像机与使用 PPPoE/Cable 调制解调器的IP路由器连接

IP安装器按钮的名称和功能

静态 IP 设置

动态 IP 设置

路由器端口设置

从共享的本地 PC 连接到摄像机

从远程 PC 通过互联网连接到摄像机

WEB 查看器

23

23

设置屏幕

34

34

附录

57

57

23

24

24

24

25

25

25

29

31

连接到摄像机

密码设置

登录

各浏览器插件支持规格

安装 WebViewer 插件

使用无插件 web 查看器

使用现场屏幕 (无插件 web 查看器)

播放录制的视频 (无插件 web 查看器)

播放录制的视频 (有插件 web 查看器)

34

34

38

44

48

50

55

设置

基础设置

视频及音频设置

网络设置

事件设置

NAS（网络连接存储器）指南

系统设置

57

58

故障排除

Open Source Announcement

概述

推荐 PC 技术规格

- CPU：Intel(R) Core(TM) i7 3.4 GHz 或更高版本
- 支持的操作系统：MS Windows、Mac OS X
- 无插件 web 查看器
支持的 web 浏览器：Google Chrome、Firefox (仅支持 64bit)、MS Edge
- 有插件 Web 查看器
支持的 web 浏览器：MS Explore、Apple Safari ※ 仅支持 Mac OS X
- VGA：PCIe 256MB GDDR3 或更高规格的视频图形卡
通过验证的OS与浏览器的详细版本信息请参考附件。
在浏览器上部分功能的使用有可能受到限制。

建议的 MICRO SD/SDHC/SDXC 存储卡规格

- 建议容量：4GB ~ 128GB (uhs-1 class)
- 对您的摄像机，我们建议您使用以下厂商制造的存储卡：
 - M-制造厂家：Sandisk, Transcend
 - 产品群：High endurance

NAS 建议规格

- 建议容量：建议使用200GB以上2TB以下。
- 同时访问：一套 NAS 可以同时接受最多十六个摄像机访问。
- 对于本摄像机，建议使用符合以下制造商规格的 NAS。

建议产品	可用尺寸
QNAP NAS	最多 16 个摄像机可同时访问。
Synology NAS	最多 16 个摄像机可同时访问。



- 如果使用 NAS 设备的目的不是为了保存视频，可以减少可访问摄像机的数量。

随机提供的物品

请检查产品包装内是否已包括摄像机和所有附件。
(配件因销售国家/地区而异。)

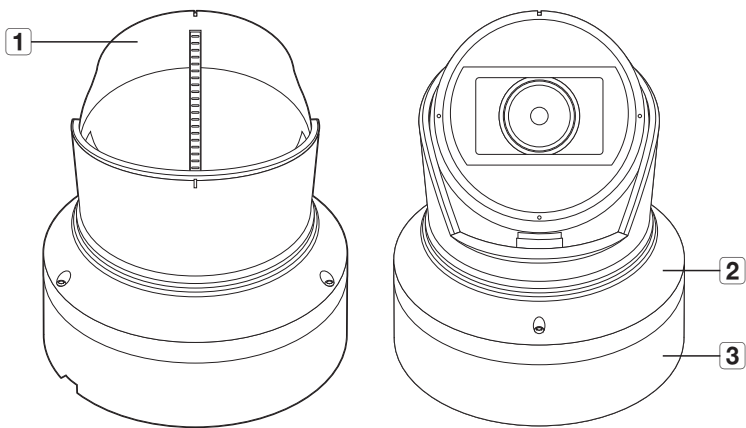
外观	品名	数量	功能
	摄像机	1	
	简介 (可选)	1	
	保修卡 (可选)	1	
	模板	1	产品安装指南
	支架螺钉	3	用于墙壁或天花板上的安装
	电源接线板	1	插入电源插头
	L 型扳手	1	用于分解壳子及安装。
	机器螺钉	3	在产品安装在管道、墙上安装支架等上时， 用于装配圆顶盒；或者用于堵塞孔。

外观	品名	数量	功能
	电源线	1	用于插入电源插座
	音频/警报器电缆	1	用于连接音频和警报器端口
	盖帽安装器	1	连接 RJ45 线缆时使用
	线缆保护衬套	1	连接 LAN 电缆时使用

概述

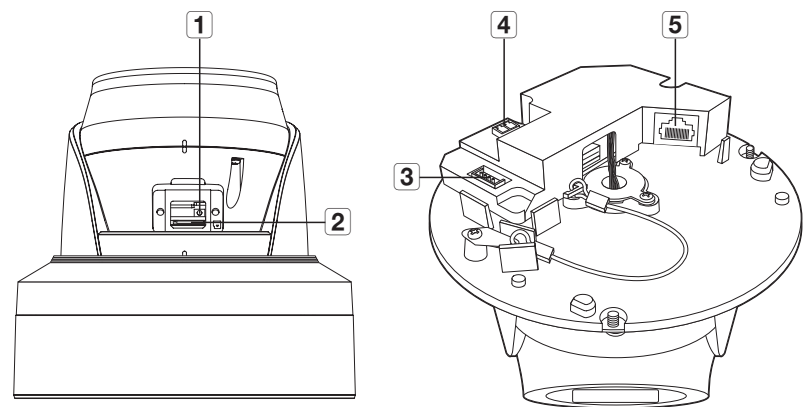
简图

外观



名称	功能
1 头部	包括镜头与内部主体的部位。
2 固定盖	调整头部方向后盖上此盖可以固定方向。
3 摄像机壳	用于安装并保护摄像机内部的壳子。

组件



名称	功能
1 重置按钮	该按钮会将所有摄像机设置恢复为出厂默认值。 按住约 5 秒钟可重启系统。 ■ 摄像机被重置后，其网络设置会变为DHCP。如果网络中没有 DHCP 服务器，则必须运行 IP Installer 程序更改基本的网络设置，如 IP 地址、子网掩码、网关等，然后才能连接到网络。
2 Micro SD存储卡插入口	用于插入Micro SD存储卡的端子。
3 音频和警报器端口	连接音频和警报线缆、以连接外部警报设备/麦克风的终端。
4 电源端口	用于电源接线板的端口。
5 网络端口	用于连接 PoE 或网络连接的以太网电缆。

安装与连接

安装

- ❗ 此摄像机防水并且符合 IP66 规格，但连接到外部电缆的插孔不防水。建议您将本产品安装在屋檐下，防止电缆因暴露在户外而受损。

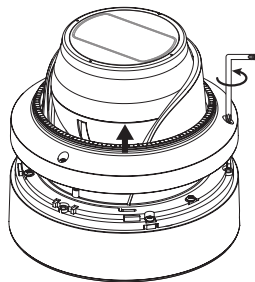
安装前注意事项

安装之前，请确保阅读下列说明：

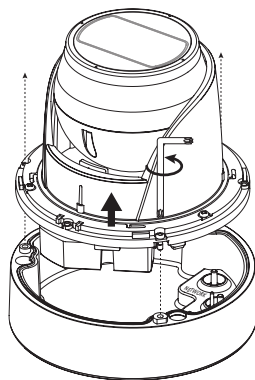
- 用于安装它的区域（天花板或墙壁）的可承受重量必须至少 5 倍于包括安装支架在内的摄像机重量。
- 注意电缆夹在不适当的地点或电缆皮受损，以免发生火灾或产品破损。
- 为安全起见，让其他人远离安装地点。
请立刻收拾放在安装地点下面的贵重品。

拆解

1. 使用附件里的L扳手将固定盖的3个连接用螺栓往逆时针方向解开。

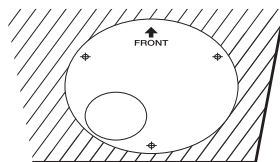


2. 使用附件里的L扳手将摄像机组件的3个连接用螺栓往逆时针方向解开。

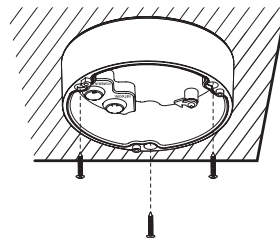


安装

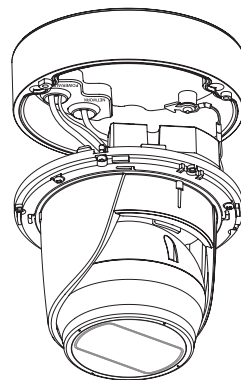
1. 使用随附提供的模板配件，钻出安装螺钉需要使用的孔（直径为 6mm，深至少 55mm）。



2. 对准摄像机安装孔后，使用自攻螺钉固定好Bottom Case。
• Bottom Case的 <FRONT> 标记要向着所监视的方向。

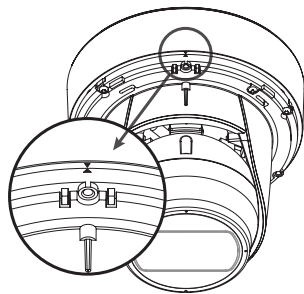


3. 请将摄像机组件的安全线连接到Bottom Case的安全扣上。
4. 连接摄像机内部的插口与电缆后请整理好电缆以防电缆受到损伤。

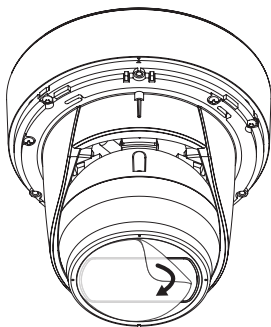


安装与连接

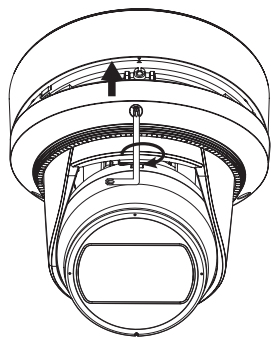
5. 请将摄像机组件安装于Bottom Case上。
 - 需按照摄像机组件和Bottom Case的方向标记进行安装。



6. 去除保护胶带。

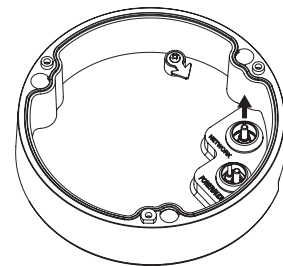


7. 请参阅“调整摄像机的监视方向”来调整镜头，使其面向所需的方向。
(第 12 页)
8. 套上固定壳后使用L扳手进行安装。
 - 请先连接每个螺丝的一半后再拧紧剩下的一半。

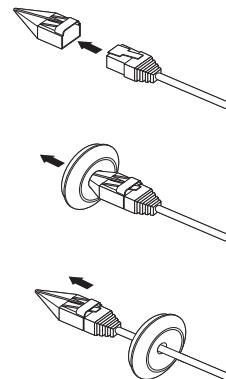


连接 LAN 线缆

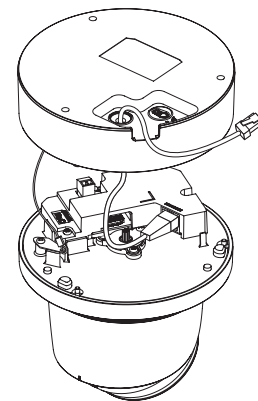
1. 请参考图片，拽出底部的[NETWORK]用橡皮塞的突出部分。
2. 将打完孔的橡皮塞往下拔出来。



3. 使用Cap Installer将RJ45电缆通过该孔。

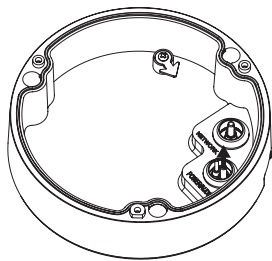


4. 再把橡皮塞安装好后连接LAN电缆与以太网端子。



连接 LAN 线缆

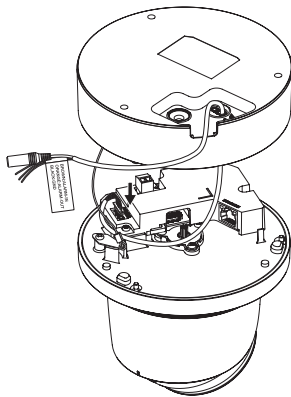
1. 请参考图片，往下拔出[POWER/AUDIO/ALM]用橡皮塞。



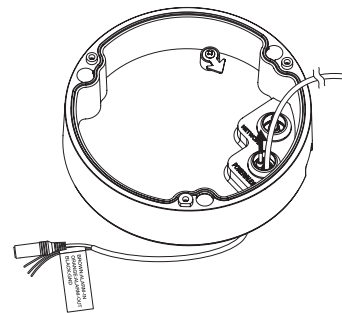
2. 在第一步除去橡皮塞后出的孔上插入报警/音频电缆后连接至 PCB 的报警终端机。

3. 连接摄像机内部的插口与电缆后请整理好电缆以防电缆受到损伤。

4. 将报警/音频电缆上的橡皮塞插入孔里。

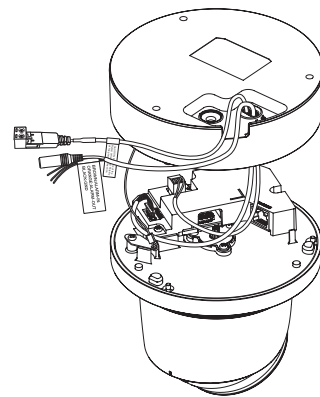


5. 请参考图片，拽出橡皮塞的突出部分。



6. 在孔上插入电源电缆。

7. 将电源线连接到电源接线板。

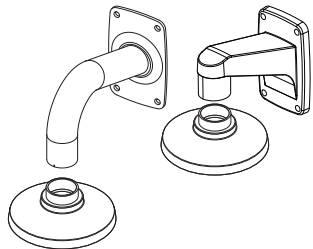


安装与连接

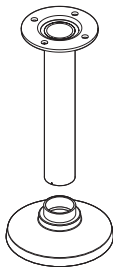
可选的安装附件

为了方便安装，您可以购买可选的附件。

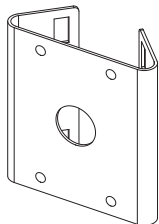
1. 墙上安装适配器 (SBP-300WM 或 SBP-300WM1) / 悬挂安装适配器 (SBP-300HM5)
将圆顶摄像机安装到墙上时使用该适配器。



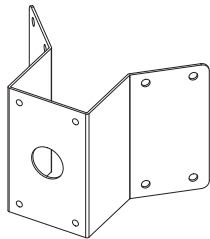
2. 天花板安装适配器 (SBP-300CM) / 悬挂安装适配器 (SBP-300HM5)
将圆顶摄像机安装到混凝土天花板上时使用该适配器。



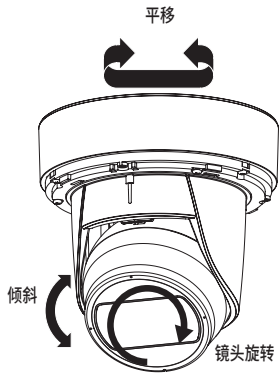
3. 柱式安装适配器 (SBP-300PM)
这是在直径大于 80 毫米的柱子上安装墙上安装适配器 (SBP-300WM 或 SBP-300WM1) 时使用的适配器。



4. 角落安装适配器 (SBP-300KM)
这是在墙角安装墙上安装适配器 (SBP-300WM 或 SBP-300WM1) 时使用的适配器。



调整摄像机的监视方向



调整监视方向

仅当摄像机固定到天花板上时才能调整摄像机方向。
调整时，左右旋转摄像机装置称为“平移”，调整倾斜度称为“倾斜”，沿镜头轴转动镜头称为“旋转”。

- 平移的有效范围是共 350 度。
- 旋转的有效范围是共 360 度。
- 倾斜的有效范围是共 70 度。

调整方法

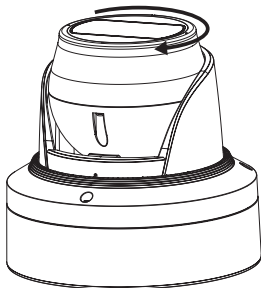
考虑监视方向安装摄像机后调整Pan, Rotation, Tilt的角度。

插入/取出 MICRO SD 存储卡

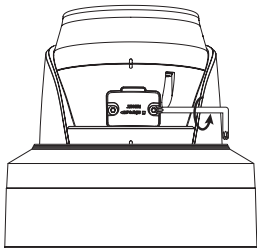
- ❗ 安装摄像机前，请先从摄像机拔下电源线后，插入 Micro SD 保存卡。
- 请不要将Micro SD存储卡往逆方向强行插入,以免存储卡破损。
- 下雨或湿度较高时，不建议插拔内存卡。
- 产品盖子的拆卸应该在5分钟之内完成，否则会有内部结露的风险。

插入 Micro SD 存储卡

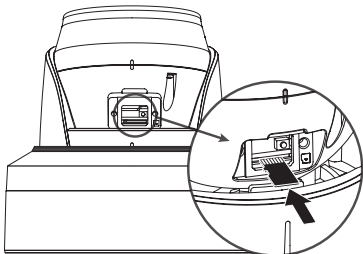
1. 参考图片将SD壳朝正面回转90°。
2. 将摄像机往后完全Tilt。



3. 使用附件里的L扳手分离SD壳。

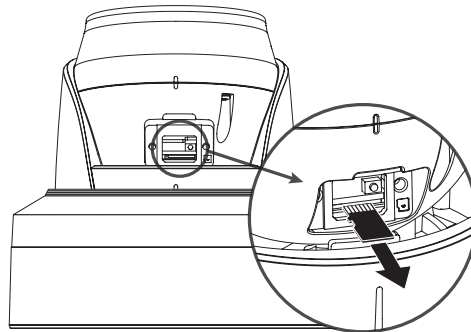


4. 参考图片往箭头方向插入Micro SD 卡。



取出 Micro SD 存储卡

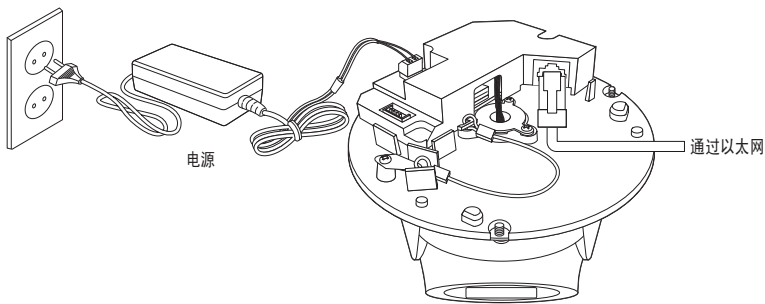
轻轻地按压存储卡露在外面的一端，依图示的方式从拆槽中弹出存储卡。



- ❗ 过度用力按Micro SD存储卡，可能会导致存储卡从卡槽中猛然弹出。
- 在移除 Micro SD 存储卡前，请在 <存储器> 中将设备设置为 <关>，然后按下 [应用] 按钮并关闭摄影机。（第 46 页）
- 将数据保存在Micro SD存储卡时，若取出存储卡或关掉电源，会导致已存数据的损失。

安装与连接

与其他设备连接



以太网连接

将以太网电缆连接到本地网络或互联网。

电源

使用螺丝刀将每股电源线 (+, -) 连接至摄像机的相应电源端口。

- !

- 如果同时供应 PoE 和 DC 12V，将采用来自 PoE 的电源为产品供应。
 - 您也可以使用具有 PoE 功能的路由器为摄像机供电。
 - 使用符合 IEEE 802.3af 协议的 PoE。
 - 仅可使用 PoE 和 DC 12V 的电源之一。
 - 在连接电源线时，切勿弄反极性。
 - 如果要连接外部设备，则必须先关闭外部设备再进行。

每个型号的电源电缆规格

对于 DC 12V 输入：

股线类型 (AWG)	#22	#20	#18
电缆长度（最大）	24米	38米	60米

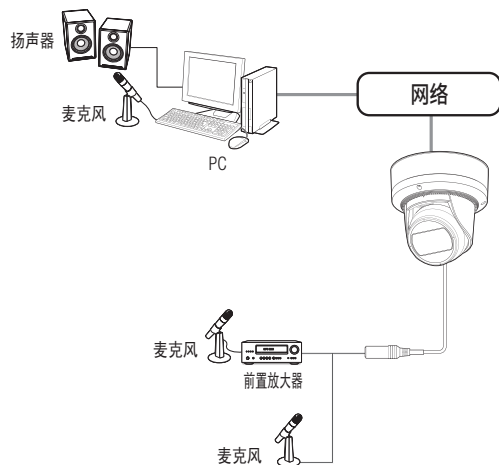
网线规格

名称	内含物	备注
连接器	RJ45	
以太网	10/100BASE-T	10/100 Mbps
电缆	UTP 超5e类	
最大距离	100米	直流电阻 ≤ 0.188 Ω/m
PoE 支持	IEEE 802.3af	

- !

- 如果使用非 5e 类标准的线缆，无法保证传输距离能达到 100 米。

连接音频输入



1. 将摄像机的音频输入端口连接至麦克风或麦克风连接至的扩音器的线性输出端口。
2. 检查音频输入的规格。

- 音频编解码器

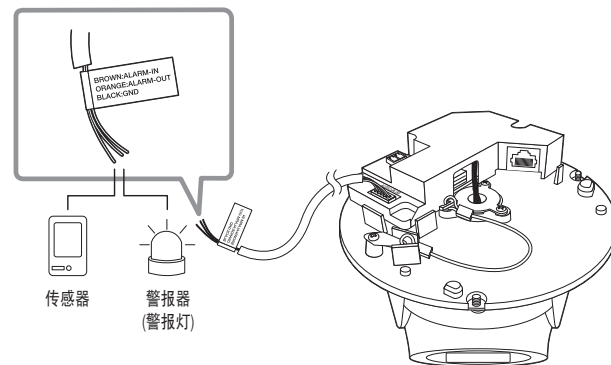
- 音频输入：G.711 PCM(比特率:64kbps / 采样频率:8kHz), G.726 ADPCM(比特率: 16Kbps、24Kbps、32Kbps、40Kbps / 采样频率:8kHz)

- 全双工音频

- 音频输入：可选（麦克风/线路输入），支持的电压：2.5VDC (4mA)，输入电阻：2K 欧姆

连接到 I/O 端口

将警报输入/输出电缆连接到端口盒的相应端口。



- ALARM-IN：用于连接警报输入传感器或外部日夜传感器。
- ALARM-OUT：用于连接警报输出信号。
- GND：警报输入/输出信号的公共端。



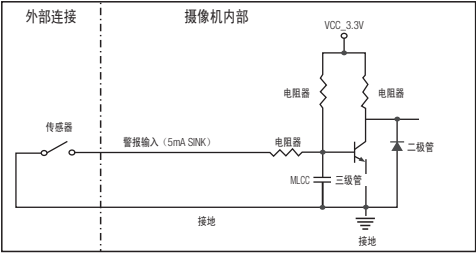
如果使用开路集电极方法连接超出电压和电流规格的设备（如闪光灯和警报器），它可能导致故障。在连接超出电压和电流规格的设备时，参考“警报输出线路图”。（第 16 页）

连接外接传感器

将传感器每根信号线（2 线）的一股线连接至 [ALARM IN] 端口，并将另一股线连接至 [GND] 端口。

安装与连接

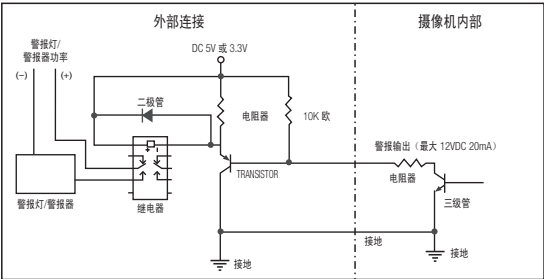
警报输入线路图



要连接警报输出

如果使用开路集电极方法连接超出电压和电流规格的设备（如闪光灯和警报器），它可能导致故障。
在连接超出电压和电流规格的设备时，参考下面的警报输出连接线路图。

警报输出线路图



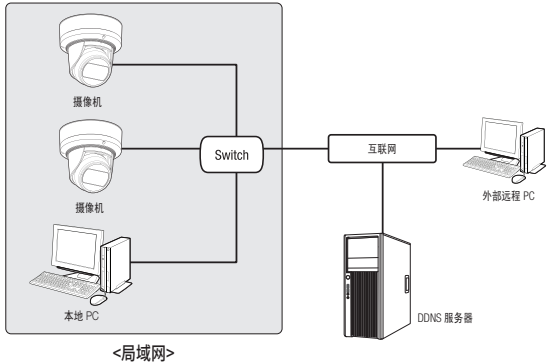
网络连接和设置

可根据您的网络配置来设置网络的设定。

在LAN环境下直接安装摄像机

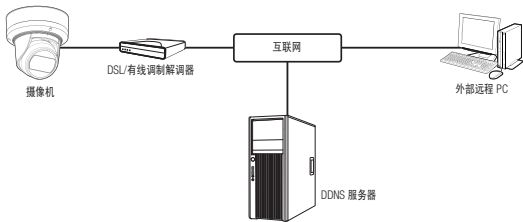
连接局域网内的本地 PC 和摄像机

- 1. 启动本地 PC 上的Web浏览器。
- 2. 在浏览器地址栏中输入要访问的摄像机IP地址。



- 在正确设置防火墙或端口转发前，局域网外部的远程互联网 PC 可能无法连接安装于内部网的摄像机。在此情况下，联系网络管理员解决问题。
- 在IP安装程序中，您可以使用初始密码“4321”来设置IP地址、子网掩码、网关、HTTP端口、VNP端口或IP类型。在更改网络接口后，为了提高安全性，请访问Web查看器并更改密码。
- 出货时，摄像机被设置为DHCP服务器自动分配IP地址。如果没有可用的 DHCP 服务器，则会将 IP 地址设置为 192.168.1.100。要更改 IP 地址，请使用 IP Installer。有关 IP Installer 使用的详细信息，请参阅“静态 IP 设置”。(第 19 页)

将摄像机直接连接至基于 DHCP 的 DSL/有线电视网调制解调器

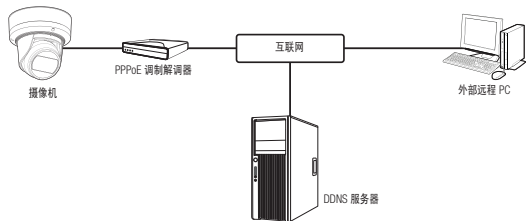


- 1. 直接将用户 PC 与网络摄像机连接。
- 2. 运行 IP Installer 并更改摄像机的 IP 地址，以便可以使用桌面上的 Web 浏览器连接至互联网。
- 3. 使用Web浏览器连接至 Web Viewer。
- 4. 移至 [设置] 页面。
- 5. 移至 [网络] - [DDNS] 并配置 DDNS 设置。
- 6. 移至 [Basic] - [IP & 端口]，并将网络类型设置为 [DHCP]。
- 7. 将摄像机与用户PC分开，并直接连接到调制解调器。
- 8. 重新启动摄像机。

- 有关配置 DDNS 设置，请参阅“DDNS”。(第 44 页)
- 有关注册 DDNS 设置，请参阅“注册 DDNS”。(第 45 页)
- 有关配置IP类型设置，请参阅“IP & 端口”。(第 37 页)

网络连接和设置

直接将摄像机连接到 PPPoE 调制解调器

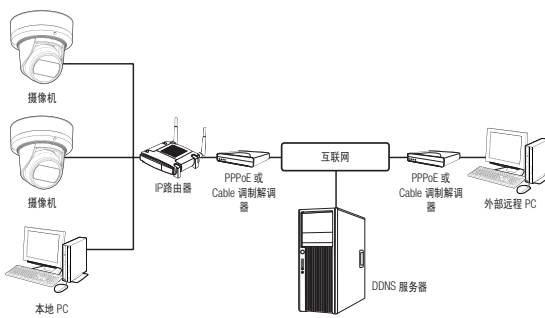


1. 直接将用户 PC 与网络摄像机连接。
2. 运行 IP Installer 并更改摄像机的 IP 地址，以便可以使用桌面上的 Web 浏览器连接至互联网。
3. 使用Web浏览器连接至 Web Viewer。
4. 移至 [设置] 页面。
5. 移至 [网络] – [DDNS] 并配置 DDNS 设置。
6. 移动到 [Basic] – [IP & 端口] 设置页面，将“IP 类型”设置为 [PPPoE]，然后输入网络服务的 ID 和密码。
7. 将摄像机与用户PC分开，并直接连接到调制解调器。
8. 重新启动摄像机。

- 有关配置 DDNS 设置，请参阅“DDNS”。(第 44 页)
- 有关注册 DDNS 设置，请参阅“注册 DDNS”。(第 45 页)
- 有关配置IP类型设置，请参阅“IP & 端口”。(第 37 页)

将摄像机与使用 PPPoE/CABLE 调制解调器的IP路由器连接

适用于小型网络环境，如家庭、SOHO 以及普通的商店。



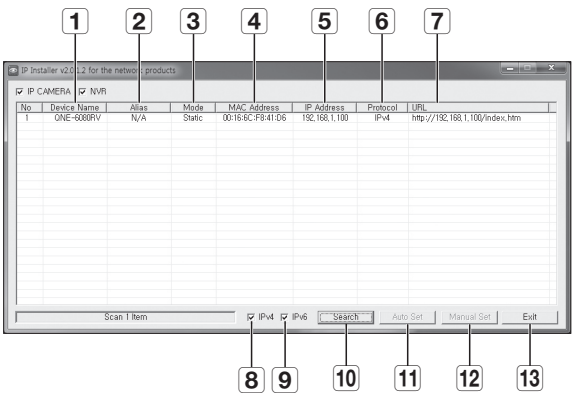
配置与IP路由器连接的本地PC的网络设置

在配置连接到IP路由器的本地 PC 的网络设置时，遵循以下说明。

- 选择：<网上> → <属性> → <本地连接> → <常规> → <属性> → <Internet 协议 (TCP/IP)> → <属性> → <自动获得 IP 地址> 或 <使用下面的 IP 地址>。
- 若您选择的是 <使用下面的 IP 地址>，遵照以下说明操作：
 - 例1) 若IP路由器的地址 (LAN IP) 为 192.168.1.1
IP 地址：192.168.1.100
子网掩码：255.255.255.0
默认网关：192.168.1.1
 - 例2) 若IP路由器的地址 (LAN IP) 为 192.168.0.1
IP 地址：192.168.0.100
子网掩码：255.255.255.0
默认网关：192.168.0.1
 - 例3) 若IP路由器的地址 (LAN IP) 为 192.168.xxx.1
IP 地址：192.168.xxx.100
子网掩码：255.255.255.0
默认网关：192.168.xxx.1

- 关于IP路由器的地址，请参见产品文档。
- 如需IP路由器的正向端口的更多信息，请参阅“路由器端口设置”。(第 21 页)

IP安装器按钮的名称和功能



名称	功能
1 Device Name	已连接摄像机的型号名称。 单击此列标可以按型号名称对列表进行排序。 但是，如果在搜索时单击将会停止搜索。
2 Alias	此功能当前不可用。
3 Mode	在<Static>、<Dynamic> 和 <PPPoE>中，显示现在的网络状态。
4 MAC(Ethernet) Address	已连接摄像机的以太网地址。 单击此列标可以按以太网对列表进行排序。 但是，如果在搜索时单击将会停止搜索。
5 IP Address	IP 地址。 单击此列标可以按 IP 地址对列表进行排序。 但是，如果在搜索时单击将会停止搜索。
6 Protocol	摄像机的网络设置。 出厂默认设置为 “IPv4”。 使用 IPv6 设置的摄像机将显示 “IPv6”。
7 URL	可从外部网络访问的DDNS URL地址。 若DDNS注册失败，该列标将显示为摄像机的<IP Address>。
8 IPv4	扫描使用 IPv4 设置的摄像机。

名称	功能
9 IPv6	扫描使用 IPv6 设置的摄像机。 只能在符合 IPv6 的环境中激活。
10 Search	扫描当前连接到网络的摄像机。 但是，如果没有选取 IPv4 也没有选取 IPv6，该按钮将呈灰色。
11 Auto Set	IP Installer 自动配置网络设置。
12 Manual Set	手动配置网络设置。
13 Exit	退出 IP Installer 程序。

- 对于 IP Installer，请仅使用在安装 CD 中提供的版本，或者最新版本（如果可以获得）。
可以从 Hanwha Vision网站下载最新版本。
- “Device Manager” 可以访问Hanwha Vision网站的（<https://www.HanwhaVision.com>）<Support> - <Online Tool> 进行下载。

静态 IP 设置

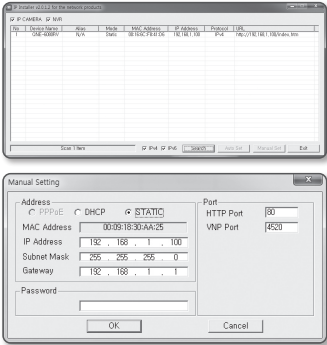
手动网络设置

运行 <IP Installer_v2.XX.exe> 以显示摄像机搜索列表。
在初始启动时，[Auto Set] 和 [Manual Set] 将呈灰色。

- 对于以 IPv6 设置为基础的摄像机，这些按钮将呈灰色，因为摄像机不支持此功能。

- 从搜索列表选择一个摄像机。
在摄像机的标签上检查摄像机的 MAC 地址。
将激活 [Auto Set] 和 [Manual Set] 按钮。
- 单击 [Manual Set]。
Manual Setting 对话框将会出现。
摄像机的 <IP Address>、<Subnet Mask>、<Gateway>、<HTTP Port> 和 <VNP Port> 均显示为预设置值。
- 在 <Address> 窗格中，提供必需的信息。
 - MAC (Ethernet) Address：印在摄像机标签上的 MAC 地址会自动显示，不需要用户设置。

- 只有在未选中 DHCP 的情况下才能设置 IP 相关参数。



网络连接和设置

如果不使用IP路由器

若要设置 <IP Address>、<Subnet Mask> 和 <Gateway>，请联系网络管理员。

4. 在 <Port> 窗格中，提供必需的信息。

- HTTP Port：用于使用Web浏览器访问摄像机，默认值为 80。
- VNP Port：用于控制视频信号传输，默认值为 4520。

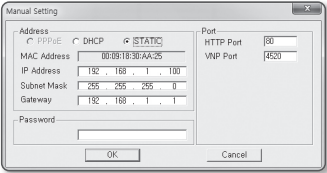
5. 输入密码。

输入用来访问摄像机的“admin”帐户的密码。

- 出于安全考虑，建议您的密码使用数字、大小写字母以及特殊字符的组合。
- 如果您要更改密码，请参考用户设置的“管理员密码更改”。（第 36 页）

6. 单击 [OK]。

将完成手动网络设置。



如果使用IP路由器

- IP Address：输入IP路由器提供的 IP 范围内的地址。
例) 192.168.1.2~254, 192.168.0.2~254, 192.168.XXX.2~254
- Subnet Mask：IP路由器的 <子网掩码> 将是摄像机的 <子网掩码>。
- Gateway：IP路由器的 <本地 IP 地址> 将是摄像机的 <Gateway>。

- 设置可能因连接的IP路由器型号而异。
有关详细信息，请参阅适用路由器的用户手册。
- 如需IP路由器的正向端口的更多信息，请参阅“路由器端口设置”。（第 21 页）



如果IP路由器连接了多个摄像机

分别设置摄像机的IP相关项目和Port相关项目。

例)

	类别	摄像机 1	摄像机 2
IP 相关设置	IP Address	192.168.1.100	192.168.1.101
	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	192.168.1.1	192.168.1.1
端口相关设置	HTTP Port	8080	8081
	VNP Port	4520	4521

- 如果 <HTTP Port> 设置为除 80 以外的值，您必须在Web浏览器的地址栏中提供 <Port> 号，才能访问摄像机。

例) http://IP address: HTTP Port
http://192.168.1.100:8080

自动网络设置

运行 <IP Installer_v2.XX.exe> 以显示摄像机搜索列表。

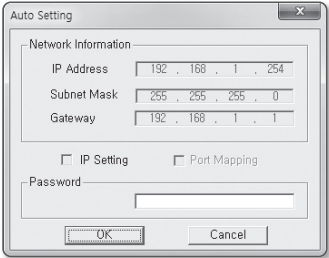
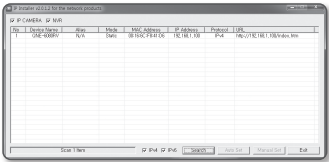
在初始启动时，[Auto Set] 和 [Manual Set] 将呈灰色。

- 对于以 IPv6 设置为基础的摄像机，这些按钮将呈灰色，因为摄像机不支持此功能。

1. 从搜索列表选择一个摄像机。
在摄像机的标签上检查摄像机的 MAC 地址。
将激活 [Auto Set] 和 [Manual Set] 按钮。
2. 单击 [Auto Set]。
Auto Setting 对话框将会出现。
显示自动搜索到的<IP Address>、<Subnet Mask> 和 <Gateway>。
3. 输入密码。
输入用来访问摄像机的“admin”帐户的密码。

- 出于安全考虑，建议您的密码使用数字、大小写字母以及特殊字符的组合。
- 如果您要更改密码，请参考用户设置的“管理员密码更改”。（第 36 页）

4. 单击 [OK]。
将完成自动网络设置。



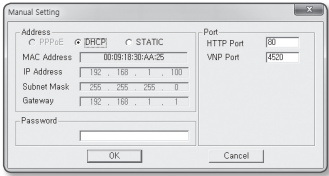
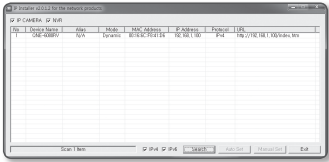
动态 IP 设置

动态 IP 环境设置

- 动态 IP 环境示例
 - 如果连接了摄像机的IP路由器由 DHCP 服务器分配了 IP 地址
 - 将摄像机直接连接到使用DHCP方式的调制解调器时
 - 在LAN环境下, 从内部DHCP服务器获取IP时

检查动态 IP

1. 在用户的本地计算机上运行 IP Installer。
获取<Dynamic IP>的摄像机将会显示在列表中。
2. 从搜索结果中选择摄像机。
3. 单击 [Manual Set] 按钮, 然后检查摄像机的 <Dynamic IP> 地址。
如果取消选择 <DHCP>, 您即可将 IP 更改为 <Static>。

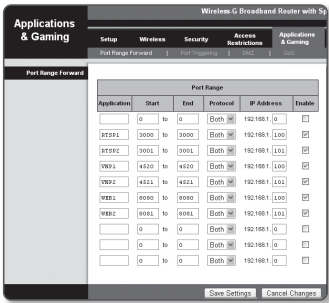


路由器端口设置

如果您安装了连接摄像机的IP路由器,就必须设置在IP路由器上前移的端口范围,以便远程 PC 可以其中的摄像机。

手动端口设置

1. 从IP路由器的 Setup 菜单中, 选择 <Applications & Gaming> - <Port Range Forward>。
关于第三方IP路由器端口转发的菜单位置和设置方法, 请参阅各个IP路由器制造商提供的用户手册。
2. 对连接到IP路由器的每个摄像机选择 <TCP> 和 <UDP Port>。
应当按照摄像机 web 查看器<设置> - <Basic> - <IP & 端口> 中指定的端口数量设置要配置给 IP 路由器的各端口数量。



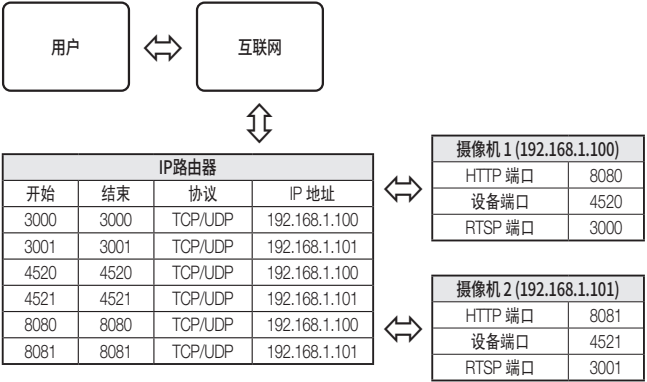
3. 完成后, 单击 [Save Settings]。
将保存设置。

- 以上样本说明基于 CISCO 的IP路由器。
- 设置可能因连接的IP路由器型号而异。
有关详细信息, 请参阅适用路由器的用户手册。

设置多个网络摄像机的端口范围前移

- 在路由器的设置页面, 可设置路由器的端口转发。
- 用户可以使用摄像机设置屏幕更改每个端口。

当摄像机 1 和摄像机 2 连接至同一路由器时：



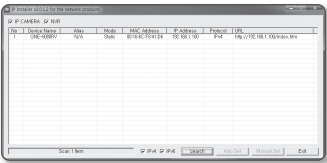
- 如果路由器支持 UPnP (通用即插即用) 功能, 无需额外路由器设置即可实现端口转发。
连接好网络摄像机之后, 选择“设置->网络->DDNS”下<DDNS>中<快速连接>菜单中的复选框。

网络连接和设置

从共享的本地 PC 连接到摄像机

- 1. 运行 IP Installer。
它将扫描连接的摄像机，并显示摄像机列表。
- 2. 双击要访问的摄像机。
Web浏览器将启动，并连接到摄像机。

■ 您也可以在Web浏览器的地址栏中键入所发现摄像机的 IP 地址的方式访问摄像机。



从远程 PC 通过互联网连接到摄像机

在IP路由器外部的远程PC上,无法使用IP安装器。用户可利用摄像机的DDNS URL, 访问IP路由器内部的摄像机。

- 1. 您应该设置IP路由器端口范围前移, 然后才能访问IP路由器网络中的摄像机。
- 2. 为了从外部的远程PC访问摄像机, 启动浏览器后, 在地址栏上输入DDNS URL地址或IP路由器的IP地址。
例) <http://ddns.hanwha-security.com/ID>

■ 有关注册 DDNS 设置, 请参阅“注册 DDNS”。(第 45 页)

连接到摄像机

通常,您应该

1. 启动Web浏览器。
2. 在地址栏中键入摄像机的 IP 地址。
例) • IP 地址 (IPv4) : 192.168.1.100 → http://192.168.1.100
- 将会出现登录对话框。
• IP 地址 (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111 →
http://[2001:230:abcd:ffff:0000:0000:ffff:1111] - 将会出现登录对话框。

如果 HTTP 端口为除 80 以外的值

1. 启动Web浏览器。
2. 在地址栏中键入摄像机的 IP 地址和 HTTP 端口号。
例) IP 地址 : 192.168.1.100:HTTP 端口号(8080)
→ http://192.168.1.100:8080 - 将会出现登录对话框。

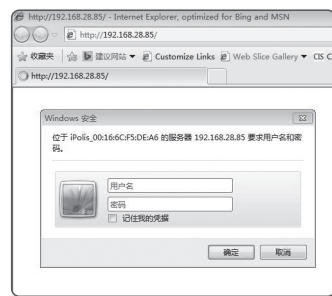
使用 URL

1. 启动Web浏览器。
2. 在地址栏中键入摄像机的 DDNS URL。
例) URL 地址 : http://ddns.hanwha-security.com/ID
- 将会出现登录对话框。

❗ 在只有Local网的环境下, 无法访问摄像机。

通过 UPnP 连接

1. 运行支持 UPnP 协议的客户端或操作系统。
2. 单击搜索到的摄像机名称。
若是Windows操作系统, 单击在网络菜单上被搜索到的摄像机名称。
- 登录窗口即显示出来。



通过 Bonjour 连接

1. 运行支持 Bonjour 协议的客户端或操作系统。
2. 单击搜索到的摄像机名称。
若是Mac操作系统, 在Safari的Bonjour选项卡上, 单击被搜索到的摄像机名称。
- 登录窗口即显示出来。

检查 DDNS 地址

如果摄像机直接连接到 DHCP 有线电视网调制解调器、DSL 调制解调器或 PPPoE 调制解调器, 每当您尝试连接到 ISP (互联网服务提供商) 服务器时, 您的网络 IP 地址都会更改。

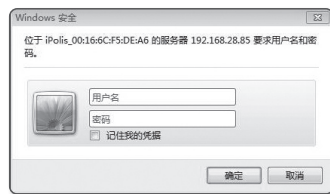
在这种情况下, 将不会通知您 IP 地址已被 DDNS 更改。

一旦您向 DDNS 服务器注册了基于动态 IP 的设备, 当尝试访问该设备时, 就可以轻松检查更改的 IP。要向 <DDNS> 服务器注册您的设备, 请访问 <http://ddns.hanwha-security.com> 并先注册您的设备, 然后将 Web Viewer 的 <网络> - <DDNS> 设置为 <DDNS>, 在<产品ID>上输入已在DDNS服务器上所注册的产品ID。

密码设置

-
- A screenshot of a Windows XP password creation dialog box titled "Administrator password change". It contains two input fields: "New password" and "Confirm new password", both showing masked characters. Below the fields are three bullet points providing guidelines for creating a strong password.
- Administrator password change**
- New password [masked]
- Confirm new password [masked]
- If the password is 8 to 9 letters long, then it should be a combination of at least three types upper/lower case alphabets, numbers and special characters.
 - If the password is 10 to 15 letters long, then it should be a combination of at least two types upper/lower case alphabets, numbers and special characters.
 - Your name should be different from password.
- The following special characters are available for use: ~ ! @ # % ^ & * - _ + = { } | \ : ; " ' , . / ? [] ` ~`
- Don't use 4 or more characters consecutive together. (examples : 1234, abcd)
 - Don't use 4 or more characters repeated. (examples : IIII, IIIII, aaas)

1. 在 <用户名> 输入框中输入“admin”。
管理员 ID，即“admin”是固定的，无法更改。
2. 在 <密码> 输入字段中输入密码。
3. 单击 [确定]。
如果已成功登录，您将会看到 Live Viewer 屏。



-

- ## 各浏览器插件支持规格

- 

安装 WEBVIEWER 插件

如要访问有插件 web 查看器并播放实时视频 (H.264/H.265) 或录制的视频, 将弹出一条安装消息。此时, 您需要安装 web 查看器插件, 才能恰当使用该功能。

1. 在第一次访问监控页面时, 屏幕会显示安装页面。 单击 [Click Here] 以开始安装。
- !

- 如果 Internet Explorer 浏览器中的插件安装文件下载状态停留在 99%, 请在“工具 → SmartScreen 筛选器”中选择“释放 SmartScreen 筛选器”。
2. 在消息窗口中单击 [Run]。
3. 当通知窗口指示将关闭所有浏览器窗口时, 单击 [Yes]。
- ✔

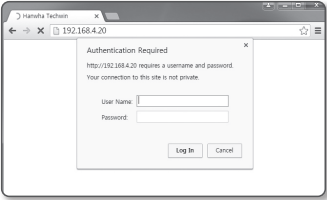
- 如果尚未安装任何 Web 浏览器插件, 将跳过步骤 4 和 5。
4. 如果已安装了旧版本的 Web 浏览器插件, 屏幕会显示一个通知窗口以指示旧版本将被删除。
在该通知窗口中单击 [Yes]。
5. 单击 [OK]。
旧版本的 Web 浏览器插件即被删除。
6. 单击 [Install], 开始安装 Web 浏览器插件。
7. 单击 [Finish]。
Web 浏览器插件即完成安装。
- !

- 在您的 Internet 浏览器中, 如果在安装 webviewer 插件后移到安装屏幕, 请检查“工具 → 其他功能管理”菜单中的 webviewer_activexplugin_lib.control 是否“已启用”。如果未启用且一直有问题, 请选择“工具 → Internet 选项 → 常规”并删除所有搜索记录。
如仍有问题, 请在“工具 → Internet 选项 → 安全 → 受信任的站点”下注册摄像机的 IP 或域名。

使用无插件 WEB 查看器

如通过 Google Chrome、Mozilla Firefox 或 MS Edge web 浏览器访问摄像机, 您可能无法单独安装插件, 但您仍可在不安装插件的情况下查看和控制摄像机视频。

1. 输入用户名和密码登录。
2. 成功登录后即显示摄像机实时视图屏幕。



使用现场屏幕 (无插件 WEB 查看器)



名称	功能
1 实时	移动至实时屏幕。
2 播放	移动到您可以搜索 Micro SD 存储卡或 NAS 中保存的视频录制的屏幕。
3 设置	移至设置屏幕。
4 查看器屏幕	显示屏幕上的现场视频。 在 Viewer 屏幕中, 可以使用鼠标滚轮来激活数码缩放。

名称	功能	
5 配置文件类型	可以在 <Basic> 设置菜单下的 <视频配置文件> 中选择配置文件类型。 ■ 点击图标即可显示当前配置文件的名称。 ■ 如果在监视页面中播放视频，以下情况可能会发生残影。 - 由于配置文件变化，分辨率发生变化。 - 配置文件变化时，由于网络延迟，传入数据变慢。 - Web 浏览器窗口大小和位置发生变化。	
6 配置文件访问信息	您可以读取配置文件信息。	
7 切换视图模式	全屏 ()	双击视频屏幕，当前播放的视频将按照显示器大小全屏播放。
	适应屏幕 ()	一种视图模式，摄像机视频尺寸将自动适应 web 浏览器尺寸。
	原始文件的大小 ()	以实际分辨率播放视频的视图模式。
	保持画面比率 ()	调整纵横比以最适合分辨率的视图模式。
8 捕捉	将当前图像另存为图像文件。	
9 录制	用户可将视频保存在计算机中。	
10 像素计数器	检查视频画面选定区域的图像像素。	
11 警报输出	激活警报输出端口。	

捕捉快照

- 在场景上单击 [捕捉 ()] 进行捕捉。
- 保存捕捉到的视频时，会显示通知信息。
捕捉到的图像将按照浏览器类型保存在指定文件夹中。

保存步骤

- 点击[录制 ()]图标。
- 要结束录制，再次按[录制 ()]。

 ■ 将录制文件以 avi 文件格式保存在计算机中。指定路径然后保存视频。

使用全屏

- 点击[全屏 ()]图标。
- 这将使查看器使用全屏。
- 要离开全屏模式，再次点击[全屏 ()]按钮或键盘上的[ESC]键。

计算图像像素的步骤

- 点击[像素统计 ()]图标激活该功能。
- 在视频画面拖动鼠标以选择区域。
- 检查视频画面选定区域的图像像素。

查看配置文件状态的步骤

您可以检查配置文件信息。

- 点击[状态 ()]图标激活该功能。
- 每次启用屏幕时均将更新配置文件访问信息屏幕。
 - 配置文件访问：显示新添加的配置文件的信息。
 - 配置文件：显示新添加的编解码器的信息。
 - 比特率(kbps)：显示实际比特率和设置的比特率。
 - 帧率(fps)：显示实际帧速率和设置的帧速率。
 - ATC(%)：显示 ATC 状态。
 - 并行用户计数：显示访问配置文件的并行用户数。
 - 当前用户：显示有关用户访问 Web Viewer 的信息并显示监视视频。
 - 配置文件：显示用户访问的配置文件的名称。
 - 比特率(kbps)：显示当前比特率。
 - 网络连接状态：它表明网络是否工作正常。
 - IP 地址：显示当前用户的 IP 地址。

使用现场屏幕 (有插件 WEB 查看器)



名称	功能
1 正在监视	移至监视屏幕。
2 播放	移动到您可以搜索 Micro SD 存储卡或 NAS 中保存的视频录制的屏幕。
3 设置	移至设置屏幕。
4 配置文件访问信息	您可以读取配置文件信息。
5 查看器屏幕	显示屏幕上的现场视频。 ■ 在 Viewer 屏幕中，可以使用鼠标滚轮来激活数码缩放。
6 Web 查看器插件安装	安装 web 查看器插件可以播放实时视频或录制的视频。
7 配置文件类型	可以在 <Basic> 设置菜单下的 <视频配置文件> 中选择配置文件类型。 ■ 连接 Web Viewer 后，将会显示当前使用的配置文件的信息。 ❗ 如果在监视页面中播放视频，以下情况可能会发生残影。 - 由于配置文件变化，分辨率发生变化。 - 配置文件变化时，由于网络延迟，传入数据变慢。 - Web 浏览器窗口大小和位置发生变化。

名称	功能
8 屏幕优化	来自摄像机的视频尺寸将放大为与 Web 浏览器尺寸一样大。
9 固定分辨率	不管在摄像机中配置的分辨率设置如何，系统都会将分辨率设置为 640x480。再按一次它会切换回默认分辨率。
10 全屏	将当前视频切换至显示器的最大大小。
11 捕捉	将快照保存为 .jpg 格式的图像文件。
12 手动录制	用户可将视频保存在计算机中。
13 调整音频	激活音频并调整音频音量。
14 警报输出	激活警报输出端口。
15 像素计数器	检查视频画面选定区域的图像像素。
16 隐藏上下文菜单	左上角的上下文菜单将会消失，只留下菜单图标。

捕捉快照

1. 在场景上单击 [捕捉 ()] 进行捕捉。
2. 保存捕捉到的视频时，会显示通知信息。
捕捉到的图像将按照浏览器类型保存在指定文件夹中。

 ■ 如在 Windows 7 或更高版本操作系统中使用 IE 浏览器无法捕捉屏幕，请使用管理员权限运行 IE 浏览器。

如何手动录制视频

1. 按[手动录制 ()]。
2. 要结束录制，再次按[手动录制 ()]。

 ■ 将录制文件以 avi 文件格式保存在计算机中。指定路径然后保存视频。

使用全屏

1. 单击 [全屏 ()] 按钮。
2. 这将使查看器使用全屏。
3. 要退出全屏模式，请按键盘上的 [Esc]。

使用音频

1. 单击 [音频 ()] 图标以激活音频通信。
2. 使用 [] 滑块控制音量。

 ■ 如果设备运行中插入和拔出音频插头时没有声音，单击 [音频 ()] 图标以将其再次启用。

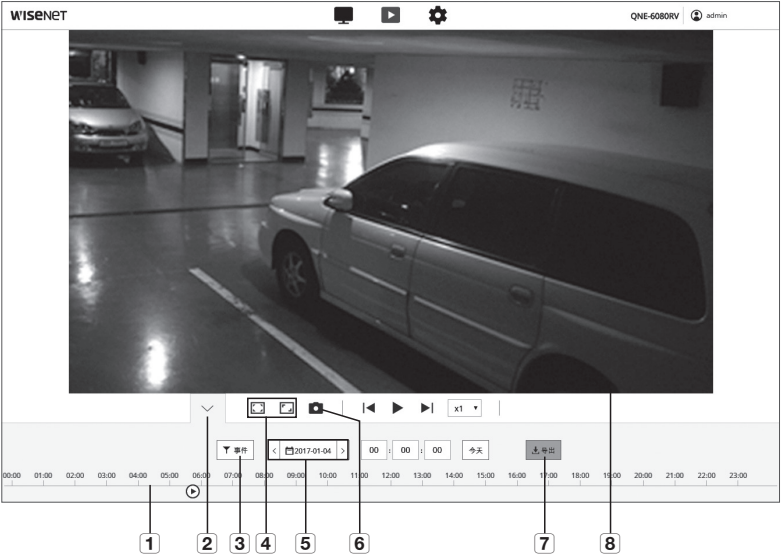
计算图像像素的步骤

1. 点击[关]图标激活该功能。
2. 在视频画面拖动鼠标以选择区域。
3. 检查视频画面选定区域的图像像素。

播放录制的视频 (无插件 WEB 查看器)

■ 在播放视频之前，必须配置录制设置。有关录制设置的详细信息，请参阅“存储器”。(第 49 页)

播放屏幕名称和功能



名称	功能	
1 时间条	移动时间条可播放所需时间的视频。	
2 隐藏上下文菜单	底部的关联菜单屏幕将消失，仅显示菜单图标。	
3 搜索事件设置	在搜索期间内，设置要搜索的事件类型。	
4 切换视图模式	全屏 ()	双击视频屏幕，当前播放的视频将按照显示器大小全屏播放。
	适应屏幕 ()	一种视图模式，摄像机视频尺寸将自动适应 web 浏览器尺寸。
	原始文件的大小 ()	以实际分辨率播放视频的视图模式。
	保持画面比率 ()	调整纵横比以最适合分辨率的视图模式。

名称	功能
5 搜索范围设置	对保存在Micro SD储存卡或NAS的数据, 进行搜索日期和时间范围设置。
6 切换视图模式	以图像文件格式（使用不同浏览器时，具体格式可能有所不同）保存当前视频画面。
7 导出	指定时间段后, 备份保存在Micro SD储存卡或NAS的视频。 ■ 创建已保存视频的备份时，最多可以设置为 5 分钟。
8 查看器屏幕	将出现录制的视频。

在按事件搜索后播放内容

1. 在播放 屏幕上，点击[显示 ()]按钮。
2. 如搜索日期当天录制了视频，则时间条上将显示相应的视频。
3. 如要按照事件类型执行搜索，点击时间条底部的[全部]按钮，选择事件类型。
4. 完成后，请单击 [应用]。
时间条上将显示搜索到的事件。
5. 点击[播放 ()]按钮。
6. 如要暂停播放视频，点击[暂停 ()]按钮。

在按时间搜索后播放

1. 点击[ 2016-12-15]图标。
2. 在日历中，设置搜索日期、开始时间和结束时间。
时间条上将显示搜索到的事件。
3. 点击[播放 (>)]按钮。
将从选定时间开始播放视频。
4. 视频在播放时，屏幕将显示当前播放视频的录制时间。
5. 向前和向后搜索视频和调整播放速度。
 - 如何移动播放间隔
选定 [K|>] 按钮时，将快进 1 帧/快退 1 帧。
 - 如何控制播放速度
点击 [] 按钮即可选择 1x、2x 和 4x 或 -1x、-2x 和 -4x 速率，按照需要设置播放速度。
6. 移动[时间条 ()]的位置可播放选定时间的视频。

备份搜索到的视频

1. 在播放期间，在场景上单击 [导出] 进行备份。
适用部分的数据将予以备份。
2. 单击 [应用] 按钮。
另存为窗口将会出现。
3. 确认保存路径，然后单击 [保存(S)] 按钮。
备份的视频数据将备份到指定的路径中。

播放备份视频

备份的视频数据保存为 .avi 格式。建议安装用户 PC 支持格式的媒体播放器。

- 
- 如因用户环境导致播放不流畅，需要安装最新版本的编解码器和其他方法进行优化。

播放 AVI 文件

(1) Micro SD 存储卡

1. 从摄像机取出 Micro SD 存储卡。



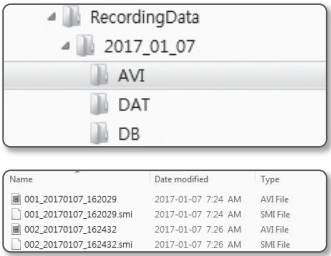
■ 在取出 Micro SD 存储卡前，将“设置→事件→存储器”菜单中的 <设备> 设置为 <关>。
2. 将 Micro SD 存储卡插入 PC。
3. 使用媒体播放器播放“WRecordingDataWYYYY_mm_DDW AVI”目录中的 AVI 文件。



■ 文件名以“001_YYYYMMDD_HHMMSS.avi”的格式开始，其中文件编号逐一递增。
YYYYMMDD_HHMMSS 表示数据保存的开始时间。

■ “001_YYYYMMDD_HHMMSS.smi”文件是一个字幕文件，只与 AVI 文件在同一个目录时，才能看到它。

■ 如果受损，Micro SD 存储卡中的数据将无法在 Web Viewer 的 [Playback] 中播放。



(2) NAS（网络连接存储器）

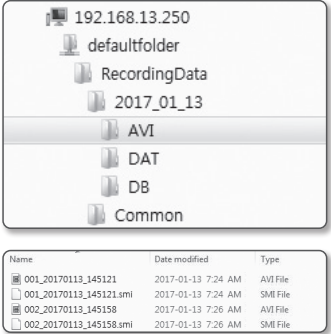
1. 在 Windows 浏览器中，使用 \\<ip address>\ 来访问。
ex) \\192.168.13.250\defaultfolder\2017_01_13\WAVI
2. 转到 <Computer> → <Network drive connection> → 输入 1。
3. 已连接到 NAS。
该目录结构与 Micro SD 存储卡使用的目录结构相同。



■ 文件名以“001_YYYYMMDD_HHMMSS.avi”的格式开始，其中文件编号逐一递增。
YYYYMMDD_HHMMSS 表示数据保存的开始时间。

■ “001_YYYYMMDD_HHMMSS.smi”文件是一个字幕文件，只与 AVI 文件在同一个目录时，才能看到它。

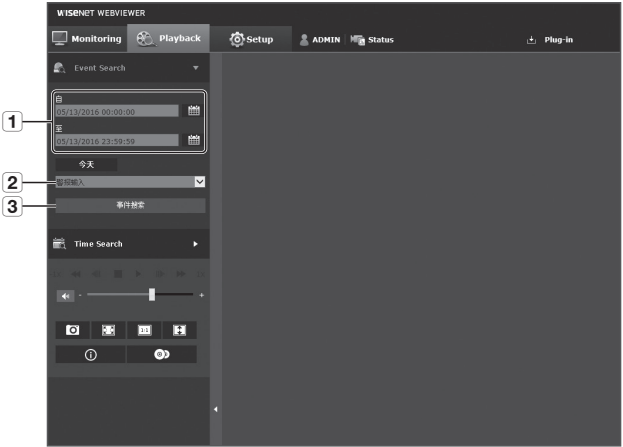
■ 如果自行更改或损坏所保存数据，它将无法正常播放或保存。



播放录制的视频 (有插件 WEB 查看器)

■ 在播放视频之前，必须配置录制设置。有关录制设置的详细信息，请参阅“存储器”。（第 49 页）

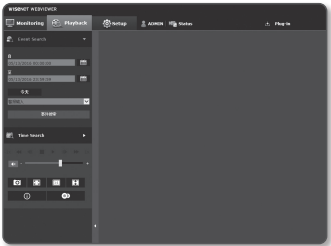
事件搜索屏幕的名称及其功能



名称	功能
1 搜索范围设置	对保存在Micro SD储存卡或NAS的数据, 进行搜索日期和时间范围设置。
2 搜索事件设置	在搜索期间内, 设置要搜索的事件类型。
3 事件搜索	运行事件搜索。

在按事件搜索后播放内容

1. 单击 [Playback (⏮)] 按钮。
 2. 指定搜索的开始和结束时间。
 3. 选择指定时间段内搜索的事件类型。
 4. 单击 [事件搜索] 按钮。
搜索结果将显示在列表中。
- 若在搜索期间内，所保存的事件视频数量超过800个的话，您可搜索到的最后日期为事件录制数量超过800个的那一天。例如，您将搜索期间指定为10日到15日，而10日~11日所录制的事件视频数量超过了800个。此时，您只能搜索到截止11日的800个视频，无法搜索12日以后的视频。
5. 在搜索列表中选择要播放的数据项目。
 6. 单击 [播放 (▶)] 按钮。
 7. 要停止播放视频，请单击 [停止 (■)]。
 8. 要返回到搜索屏幕，请单击 [退出 (↶)]。



时间搜索屏幕的名称及其功能

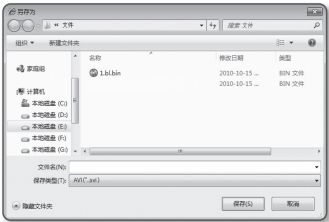
名称	功能
1 时间条	通过移动时间条播放特定时间段的视频。
2 搜索日期设置	使用日历设置搜索日期。 如果这一天有数据保存到 Micro SD 存储卡或 NAS 中，则会在日历上将这一天标记为一个方框。
3 音频	若要收听录制视频中的语音信号（如果有），则需要在播放时激活语音信号图标。
4 屏幕优化	转换摄像机图像，使它适合 Web 浏览器窗口。
5 固定分辨率	不管在摄像机中配置的分辨率设置如何，系统都会将分辨率设置为 800x600。再按一次它会切换回默认分辨率。
6 捕捉	当前图像保存为 .jpg 图像文件。
7 全屏	转换当前图像，使它覆盖显示器的最大尺寸。
8 视频信息	屏幕上将显示回放视频的时间数据。
9 备份	指定时间段后，备份保存在 Micro SD 存储卡或 NAS 的视频。 创建已保存视频的备份时，最多可以设置为 5 分钟。

在按时间搜索后播放

- 单击 [Time Search (📅)]。
- 在日历中单击所需日期。
将会播放指定日期上的视频。
- 如果视频播放已停止，请选择时间，然后单击 [播放 (▶)]。
将会播放所选日期上的视频。
- 播放视频时，将会显示当前视频的录制时间。
- 向前或向后搜索视频，并控制播放速度。
 - 如何控制播放间隔
 - ▶：选择该按钮可前移 1 帧。
 - ◀：选择 ◀ 按钮将移至帧频后。
 - 控制播放速度
如果选择 ▶▶，按钮将切换为 x1, x2, x4, x8, 并且播放速度变快。
选择 ◀◀ 按钮，播放速度将降至 -1x, -2x, -4x 或 -8X, 反向播放速度增加。
 - 控制播放方向
正向播放时，倍速显示在(▶▶)按钮上。逆向播放时，倍速显示在(◀◀)上。
 - 如何设置时间条
如果按 [📊] 按钮，则可以查看时间条部分的详细信息。
如果按 [📏] 按钮，则可以查看更广的时间范围并且可以更轻松地选择所需的时间。
- 先将 [时间条 (📊)] 移至视频的所需时间点再播放。
包含标准录制文件的时间将以蓝色突出显示；包含事件录制内容的时间将以红色突出显示。

备份搜索到的视频

- 在播放期间，在场景上单击 [📷] 进行备份。
备份开始和结束时间的计划窗口将会出现。
- 单击 [📷] 按钮。
另存为窗口将会出现。
- 确认保存路径，然后单击 [保存(S)] 按钮。
备份的视频数据将备份到指定的路径中。



播放备份视频

备份的视频数据保存为 .avi 格式。建议使用兼容该格式的 Gom Player、VLC Player 或 Window Media Player 媒体播放器。

■ 如果使用 Windows Media Player，请在使用前从 www.windows7codecs.com 下载最新的编解码器，然后安装。

播放 AVI 文件

(1) Micro SD 存储卡

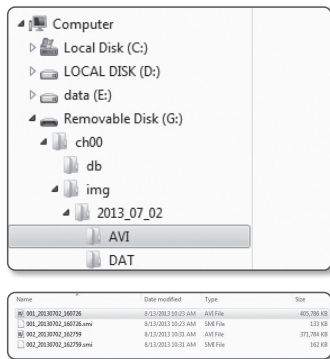
1. 从摄像机取出 Micro SD 存储卡。

■ 在取出 Micro SD 存储卡前，将“设置 → 事件 → 存储器”菜单中的 <设备> 设置为 <关>。

2. 将 Micro SD 存储卡插入 PC。

3. 使用媒体播放器播放 “\ch00\img\YYYY_mm_DD\AVI” 目录中的 AVI 文件。

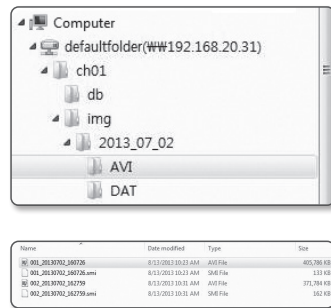
- 文件名以 “001_YYYYMMDD_HHMMSS.avi” 的格式开始，其中文件编号逐一递增。
YYYYMMDD_HHMMSS 表示数据保存的开始时间。
- “001_YYYYMMDD_HHMMSS.smi” 文件是一个字幕文件，只与 AVI 文件在同一个目录时，才能看到它。
- 如果受损，Micro SD 存储卡中的数据将无法在 Web Viewer 的 [Playback] 中播放。



(2) NAS (网络连接存储器)

1. 在 Windows 浏览器中，使用 \\<ip address>\ 来访问。
ex) \\192.168.20.31\defaultfolder\ch01\img\2013_07_02\AVI
2. 转到 <Computer> → <Network drive connection> → 输入 1。
3. 已连接到 NAS。
该目录结构与 Micro SD 存储卡使用的目录结构相同。

- 文件名以 “001_YYYYMMDD_HHMMSS.avi” 的格式开始，其中文件编号逐一递增。
YYYYMMDD_HHMMSS 表示数据保存的开始时间。
- “001_YYYYMMDD_HHMMSS.smi” 文件是一个字幕文件，只与 AVI 文件在同一个目录时，才能看到它。
- 如果自行更改或损坏所保存数据，它将无法正常播放或保存。



设置屏幕

设置

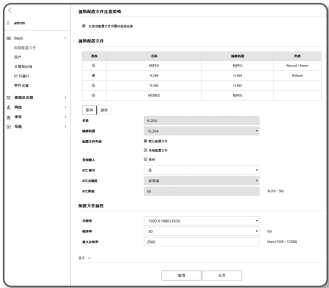
在网络中,您可以设置关于摄像机、视频和音频、网络、事件和系统的基本信息。

1. 在实时屏幕上,点击[菜单 (⚙️)]按钮。
2. 设置屏幕将会出现。

基础设置

视频配置文件

1. 从设置菜单,选择 <Basic (📺)> 选项卡。
2. 单击 <视频配置文件>。
3. 设置 <视频配置文件连接策略>。
 - 在更改配置文件设置时,保持已连接的视频:即使已连接的配置文件设置发生变化,也会输出预设值。如果未选中,已连接的配置文件设置发生变化,会重新进行连接。
4. 选择每个配置文件属性。
如需更多信息,请参阅“添加/更改视频配置文件”。(第 35 页)
5. 选择配置文件的类型。
 - 上下文菜单可能因所选的编解码器类型而异。
 - 默认配置文件:如果在使用 Web Viewer 时未选择配置文件,则会应用默认视频配置文件。
 - 电子邮件/FTP配置文件:将传送至指定的电子邮件或 FTP 站点的视频配置文件。
 - 只能将 MJPEG 编解码器设置为电子邮件/FTP 配置文件。
 - 录制配置文件:对 Micro SD卡或NAS进行视频录制时所使用的配置文件。



6. 选择是否在视频中输入音频。
选择<音频输入>复选框即可在视频中输入音频。
7. 根据您的情况,设置 ATC (自动传输控制) 模式。
 - ATC 模式:它可以根据网络带宽的变化调整视频属性,以控制比特率。根据 ATC 模式调整比特率。
 - 控制帧速率:如果网络带宽下降,则降低帧速率。
 - 控制压缩:如果网络带宽下降,则控制压缩率。压缩调整可能会导致图像质量下降。
 - 事件(MD):设定移动探测(MD)事件时被激活。事件发生时,帧速率将发生调整。如在周围区域未检测到任何移动,将输出最小帧数,节省带宽的使用。
 - 如果 <比特率控制> 设置为 <CBR>,则根据 ATC 模式,按如下所示固定编码优先级:

比特率控制/ATC 模式	控制帧速率	控制压缩	事件(MD)
CBR	压缩	帧速率	帧速率

- ATC 灵敏度:根据网络带宽的变化影响传输速率。如果带宽为 <非常高>,传输速率将调整为最高,如果带宽为 <非常低>,则调整为最慢。
- ATC 限制:如果调整帧速率的质量,此属性将更改为针对上一设置值(100%)的应用值(%). 请注意,如果您将此属性值降低太多,屏幕上可能会闪烁。因此,建议在阈值范围内调整该值。
 - 建议您仅对支持 ATC 的摄像机应用 ATC 控制。
 - 在网络带宽变化较大的网络环境中,将 ATC 灵敏度设置为 <非常低>。
 - 如果网络连接不稳定,屏幕可能会闪烁。

8. 完成后,请单击 [应用]。

添加/更改视频配置文件

根据录制条件，可以添加或修改配置文件设置来适应不同的配置文件。

1. 在<视频配置文件>中，点击<添加>按钮。

2. 提供名称并选择编解码器。

3. 指定将应用编解码器的条件。

4. 指定所选编解码器的详细信息，包括分辨率和帧率。

点击<显示>按钮即可显示详细内容。

- 分辨率：设置 H.264/H.265 和 MJPEG 文件的视频大小。
- 帧率：设置每秒的最大视频帧数。
- 最大比特率：当比特率控制设置为 VBR 时设置视频的最大比特率。



- 由于比特率可以根据清晰度、帧频和屏幕复杂性进行有限的调整，所以实际比特率可能比最大比特率要大。所以在设定值时必须考虑使用环境。

- 目标比特率：当比特率控制设置为 CBR 时设置目标比特率。
- 比特率控制：您可从恒定比特率和可变比特率中选择一种方式进行压缩。恒定比特率意味着改变视频质量或帧速率时网络传输的比特率是固定的，可变比特率意味着改变比特率时优先考虑视频质量。



- 为比特控制设置恒定比特率之后，如果选择视频质量优先模式，则为了保证对于给定的比特率获得最佳的视频质量，实际传输的帧速率可能会与帧速率设置有所不同（取决于屏幕的复杂程度）。

- 编码优先权：可以将视频传输的优先级设置为帧速率或压缩。
- 视频组长度：选择H.264/H.265编解码器时，设置从一个I-Frame到下个I-Frame间分配的帧数。（一个I-Frame+0~多个P-Frame）
- 配置文件：选择 H.264 编解码器的配置文件。
- 熵编码：此编码是使用句法统计构建的长度可变的编码。使用无损压缩技术。可设置熵编码方法。CABAC 压缩方法优于 CAVLC。

- 动态 GOV：当 H.264/H.265 编解码器比特率控制为 VBR 时，视频组长度将自动变为最大动态视频组的设定值。
- 多播(SVNP): 设置是否使用SVNP协议。
 - IP地址: 输入可连接IPv4网络的IPv4地址。
 - 端口: 设置控制视频传送的端口。
 - TTL: 可设置SVNP数据包的TTL。
- 多播(RTSP): 设置是否使用RTSP协议。
 - IP地址: 输入可连接IPv4网络的IPv4地址。
 - 端口: 设置控制视频传送的端口。
 - TTL: 可设置RTP数据包的TTL。



- 若您将多播地址设置为224.0.0.0~224.0.0.255,多播功能有时在特定环境下无法正常启动。发生问题时，请变更多播地址。

什么是视频组长度？

GOV(Group of Video object planes、视频组)是用于 H.264/H.265 压缩的视频帧，表示从初始图像帧（关键帧）到下一个图像帧的帧集合。视频组由 2 类帧组成：I 帧和 P 帧。

I 帧是压缩的基本帧，也称为关键帧，包含一幅完整图像的数据。

P-Frame仅包含与I-Frame相比发生变化(移动)的数据。

H.264/H.265 编解码器可设置GOV长度。

若用H.264/H.265编解码器设置录制配置文件，GOV长度将变为framerate/2。

什么是动态视频组 (GOV)？

动态视频组功能可使视频组按照视频情况在最小视频组长度设定值和最大动态视频组长度设定值之间自动变化。

在几乎没有移动事件的视频中，视频组以动态视频组设置值运行，此时整个视频的比特率将有所降低。检测到移动后会立即输出 I 帧，在移动消失之前，视频组均以视频组长度设置运行。

如使用该功能，视频的视频组将以最小视频组长度设置值运行。

设置屏幕

用户

- 1. 从设置菜单，选择 <Basic (Basic)> 选项卡。
- 2. 单击 <用户>。
- 3. 提供必要的用户信息。
 - 更改管理员密码：更改管理员的密码。



- 出于安全考虑，建议您的密码使用数字、大小写字母以及特殊字符的组合。
- 建议每三个月更改密码一次。
- 密码长度和限制如下所示。
 - 大写、小写、数字和特殊字符中至少选3种类型。：8 到 9 个字符。
 - 大写、小写、数字和特殊字符中至少选2种类型。：10 到 15 个字符。
 - 密码应与 ID 不同。
 - 不得重复使用同一字母、特殊字符超过 4 次。
 - 不得使用 4 个或 4 个以上连续的数字。（例如：1234、abcd）
 - 不得重复使用数字 4 次或 4 次以上。（例如：!!!!、1111、aaaa）
 - 允许使用的特殊字符为：~!@#\$%^&*()_-=+|[]{}?/
 - 进行出厂设置之后，会初始化管理员和用户密码。您需要重置密码。
 - 在首次或者初始化后访问摄像机网页时，您将转到管理员密码设置菜单。
 - 在此菜单中，您先要重置密码后再次登录，才能使用摄像机网页菜单。
 - 如果现有密码不匹配，则更改管理员密码时，无法更改该密码。
 - 在更改密码后，如果有摄像机连接到 CMS 或 NVR 客户端，则需要使用新更改的密码重新注册。如果仍使用相同的密码连接摄像机，则帐户可能被锁定，因为客户端使用的是以前的密码。
- 如果您尝试使用注册的帐户登录，5 次或更多次连续密码验证失败，则帐户可能会被锁定三十秒钟。
- 在更改密码时，如果从 PC 发出多个活动状态连接，则浏览器可能功能不正常。在此情况下，请重新连接到服务器。



- 当前用户：如果您选择了 <使用>，则您可以设置或更改用户权限。
 - 管理者可以设置音频输入和警报输出。
 - 音频输入/警报输出：使用当前用户帐户可以在实时模式下启用/音频输出/警报输出。
 - 配置文件：如果您选择了 <默认>，则您只能查看默认配置文件视频；如果选择了 <全部>，则您可以查看全部配置文件视频。



- 若授权用户中有人要设置可用ONVIF的账户，其功能将根据已设置的权限受到限制。

4. 完成后，请单击 [应用]。

日期和时间

- 1. 从设置菜单，选择 <Basic (Basic)> 选项卡。
- 2. 单击 <日期和时间>。
- 3. 指定将应用于摄像机的时间和日期。

- 当前系统时间：显示系统的当前时间设置。
- 时区：设置以标准时间(GMT)为基准的本地时区。
- 使用夏令时：如果选中将在指定的时间段内将时间设置成比当地时区早一小时。仅在应用夏令时的地区显示此选项。
- 系统时间设置：指定将应用于您的系统的时间和日期。
 - 手动：手动设置摄像机的当前时间。选择<与 PC 查看器同步>复选框，web 查看器时间将被设置为运行此 web 查看器的计算机所显示的时间。
 - 与 NTP 服务器同步：与指定的服务器地址的时间同步。

4. 完成后，请单击 [应用]。



- 如果您选择 <与 PC 查看器同步>，应该分别设置PC和摄像机的标准时区。

IP & 端口

1. 从设置菜单，选择 <Basic (Basic)> 选项卡。

2. 单击 <IP & 端口>。

3. 单击 <IP 地址>。

4. 配置 <IPv4 设置>。

- IP 类型：选择 IP 连接类型。默认值为 80(TCP)。
 - 手动：指定 IP 地址、子网掩码、网关、DNS1 和 DNS2。
 - DHCP：指定 DNS1 和 DNS2。
 - PPPoE：指定 DNS1、DNS2、ID 和密码。
 - 如果将其设置为 <手动>，则应手动指定 IP、子网掩码、网关和 DNS 1 和 2。
- MAC 地址：显示 MAC 地址。
- IP 地址：显示当前 IP 地址。
- 子网掩码：显示所设 IP 的 <子网掩码>。
- 网关：显示所设 IP 的 <网关>。
- DNS1/DNS2：显示 DNS（域名服务）服务器地址。

5. 配置 <IPv6 设置>。

- 设置为 <使用> 以使用 IPv6 地址。
- 默认：使用默认 IPv6 地址。
- DHCP：显示并使用从 DHCP 服务器获取的 IPv6 地址。
- 手动：输入并使用用户临时设置的 IPv6 地址和网关。

- ! ■ IP 寻址系统将默认为 DHCP。如果未找到 DHCP 服务器，将自动恢复之前的设置。
- 完成编辑之后，单击 [应用] 以应用更改，并且浏览器将会退出。一小会之后，使用更改后的 IP 再次连接。



6. 单击 <端口>。

7. 在端口菜单的每个项目中键入所需信息。

- 设置端口时，不可使用端口 0~1023 和 3702。
- HTTP：用于通过 Web 浏览器访问摄像机的 HTTP 端口。默认值是 80(TCP)。
 - 安全策略不允许将 Safari 和 Google Chrome 浏览器的 HTTP 端口设置为 65535。
- HTTPS：在这个版本中，加强了 Web 通信协议 HTTP 的安全性。在 SSL 中设置 HTTPS 模式时可以使用该端口。初始值设置为 443(TCP)。
 - 可用的设置范围为 1024~65535。（为了安全起见，Safari 和 Google Chrome 浏览器上，不应将 HTTPS 端口设置为 65535。）
- RTSP：用于以 RTSP 模式传输视频，默认值为 554。
- 使用 超时提示：连接到 RTSP 时，如果一段时间内没有响应，此功能会重置连接。
- 设备端口：设置用于根据 Wisenet 协议传输视频信号的端口。



- 如果更改了 HTTP 端口，则浏览器会退出。重新连接时，将重置的 HTTP 端口写在 IP 地址后面。
例) IP 地址：192.168.1.100, HTTP 端口：分配了 8080 → http://192.168.1.100:8080
(如果将 HTTP 端口设置为 80，则不需要指定端口号)
- 建议使用 RTSP 和 HTTPS，以便防止图像信息被还原。

8. 完成后，请单击 [应用]。

事件设置

您可以轻松设置事件探测项，并移到具体设置。

1. 从设置菜单，选择 <Basic (Basic)> 选项卡。

2. 单击 <事件设置>。

3. 激活“事件列表”中的所需项。

4. 完成后，请单击 [应用]。



- 如要配置详细的事件设置，点击所需类型即可。将重定向至详细设置。



设置屏幕

视频及音频设置

视频设置

1. 从设置菜单，选择 <视频及音频 (≡)> 选项卡。
2. 单击 <视频设置>。
3. 选择 <视频旋转> 模式。
 - 翻转：使摄像机捕捉的图像上下翻转。
 - 镜像：使摄像机捕捉的图像水平翻转。
 - 过道视图：按照指定角度，旋转摄像机所拍的视频。可以将视频画面旋转 0、90 或 270 度。
 - 如果更改设置，浏览器将退出后重新启动。待会重新连接。
4. 指定隐私区域。
5. 完成后，请单击 [应用]。

设置加密区域

为了保护隐私，您可以设置摄视频中要隐藏的部分。

1. 将其设置为 <开>。
2. 单击 [应用]。
3. 在视频画面上拖动鼠标以选择区域。
4. 输入名称，选择颜色，然后单击 [确认]。
5. 如果想删除列表中的某个名称，请将其选中并单击 [删除]。



音频设置

您可以对连接至摄像机的音频输入值进行设置。

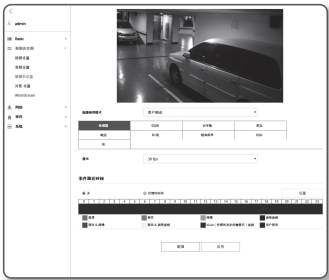
1. 从设置菜单，选择 <视频及音频 (≡)> 选项卡。
2. 单击 <音频设置>。
3. 设置音频输入值。
 - 来源：设置音频输入。
 - 线：将电缆连接到音频设备。
 - 外部麦克风：使用外部麦克风。
 - 为外部麦克风供电：当外部麦克风未接通电源时，选中此复选框后，将通过摄像机为麦克风供电。在选择<外部麦克风>时，可对设置项进行配置。
 - 编解码器：指定音频编解码器。
 - G.711：使用64Kbps脉冲编码调制(PCM)音频编码法的音频编解码器标准。这是可用PSTN或PBX传输数码音频的格式，属于ITU标准音频编解码器。
 - G.726：ITU 标准音频编解码器，将可变比特率 40/32/24/16 Kbps 的 ADPCM（自适应差分脉冲编码调制）应用于 64 Kbps PCM 编码。
 - 比特率：如果使用 G.726 编解码器，则设置比特率以区分压缩比。
 - 增益：指定音频输入放大倍数。
 - 如果声源的音量或增益值设置过度，可能会发生音质下降或振鸣。
4. 完成后，请单击 [应用]。



摄像机设置

可以根据摄像机所在的环境更改摄像机设置。

1. 从设置菜单，选择 <视频及音频 (三)> 选项卡。
2. 单击 <摄像机设置>。
3. 根据需要配置以下各项的设置：图像预设、传感器、SSDR、白平衡、背光、曝光、日夜、附加菜单、OSD、IR
4. 完成后，请单击 [应用]。
 - 如果在更改设置之后经过一定的时间未按 [应用] 按钮（超时：240 秒）设定值将回到变更前。



如果希望设置图像预设

用户可以轻松设置预设。
在配置的时间段内将运行所选择的图像预设模式，但在其他时间则反映在用户预设模式中配置的值。

1. 从图像预设中选择所需的模式。
 - 高清：这是摄像机的出厂设置。选择此项来录制视频，着重于再现性。
 - 移动：清晰录制移动物体。如果存在许多移动物体（例如在道路上或者博物馆等人多场所），应选择此项。



■ 在低照度环境中，噪音级别会增大，灵敏度会降低。

- 降噪：如果需要在低照度环境中录制低噪音视频，应选择此项。
- 调亮视频：此项可使整个视频中的黑暗区域变得更亮。



■ 但同时会降低视频对比度效果。

- 移动 & 降噪：当存在许多移动物体（例如在道路上或者博物馆等人多场所），或者需要在低照度环境中录制低噪音视频时，应选择此项。
- 移动 & 调亮视频：当存在许多移动物体（例如在道路上或者博物馆等人多场所），或者需要使整个视频中的黑暗区域变得更亮时，应选择此项。
- Vivid（多媒体异步传输模式）视频：整个视频将以生动色彩显示。

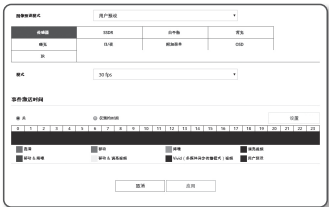


■ 视频对比度降低，同时色彩再现性能有所下降。

- 用户预设：如果您想用自己选择的设置来显示视频，则选择该选项。



■ 选择预设模式之外的其他模式时，无法设置快门速度、AGC、SSDR、SSNR 和色彩。



2. 为每个图像预设模式设置摄像机项目。
3. 设置 <事件激活时间>。
 - 关：摄像机将始终执行指定的图像预设操作。
 - 仅预约时间：摄像机将在您在每个日期设置的时间段内执行指定的图像预设操作。
4. 单击 [设置] 按钮。
5. 设置 <模式> 和 <时间>。
6. 完成后，请单击 [应用]。

每种图像预设模式的初始设置

图像预设	最小快门	最大快门	自动增益	SSDR	SSNR	COLOR
高清	默认 (1/5)	1/12000	默认 (高)	默认 (12)	默认 (12)	默认 (50)
移动	1/30	1/12000	默认 (高)	默认 (12)	4	默认 (50)
降噪	1/15	1/12000	中	默认 (12)	默认 (12)	默认 (50)
调亮视频	默认 (1/5)	1/12000	默认 (高)	18	默认 (12)	默认 (50)
移动 & 降噪	1/30	1/12000	中	默认 (12)	4	默认 (50)
移动 & 调亮视频	1/30	1/12000	默认 (高)	18	4	默认 (50)
Vivid（多媒体异步传输模式）视频	默认 (1/5)	1/12000	默认 (高)	18	默认 (12)	90
用户预设	手动	手动	手动	手动	手动	手动



- 预设设置功能可帮助用户配置设置。如果您不想使用预设功能，请在使用前将其停用。
- 如图像预设发生变化，仅快门/AGC/SSDR/SSNR/色彩将重置为各型号对应的默认值。
- 在预设之间“摄像机设置”值不会改变。

设置屏幕

设置传感器

指定摄像机 CMOS 传感器每秒钟将捕捉多少帧。

- 1. 选择 <传感器>。
- 2. 选择 <模式>。

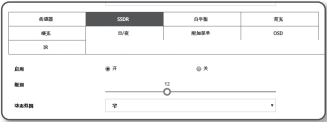
■ 请参考“视频配置文件”，了解基于模式设置的 <视频配置文件> 的帧率设置范围。（第 34 页）



设置 SSDR

在明暗差异非常大的场景中，您可以单独增加黑暗区域的亮度以调整总亮度。

- 1. 选择 <SSDR>。
- 2. 将 <模式> 设置为 <开>。
- 3. 配置必要的 <级别> 和 <范围> 设置。
 - 级别：调整动态范围的级别。
 - 范围：选择动态范围的幅度区域。



设置白平衡

在任何照明条件下，可以基于白色校正图像颜色。

- 1. 选择 <白平衡>。
- 2. 选择 <模式>。

- 自动追踪白平衡：自动校正摄像机视频的颜色。
- 手动：可以手动调整摄像机视频的红色和蓝色增益。
- 室外：根据室外环境进行优化，自动校正摄像机的视频颜色。
- 室内：根据室内环境进行优化，自动校正摄像机的视频颜色。
- 自动白平衡：根据当前照明条件和屏幕模式进行优化，校正摄像机视频的颜色。要获得当前照明的最佳条件，请将摄像机的焦点对准白纸，然后按 [设置] 按钮。若环境变，应重新调整。



■ 在自动白平衡模式中，如果要保留当前图像的白平衡级别，请单击 [设置] 按钮。

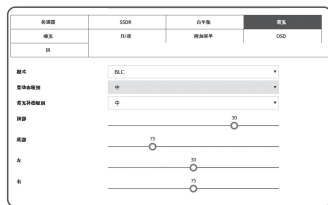
- 在下列情况下，白平衡可能无法正常工作：在这种情况下，请切换到“自动白平衡”模式。
 - 如果物体周围环境条件超出色温校正范围
示例）清澈的蓝天，日落
 - 如果物体的周围环境黑暗
 - 如果摄像机的焦点直接面对荧光灯照明，或者如果将摄像机安装在照明变化的位置，白平衡操作可能会不稳定。

设置BLC

用户可在视频上指定自己要的区域，并将此显得更加鲜明。

1. 选择 <背光>。
2. 将 <模式> 设置为 <BLC>。
3. 设置 <背光补偿级别>。
可以更改等级以调整监视区域的亮度。
4. 设置 <顶部，底部，左，右> 等级以指定目标区域。

- 设置 BLC（背光补偿）时，屏幕上将显示一个绿色对话框，该对话框将显示 15 秒。
- 为了避免在BLC(背光补偿)时出现异常动作, BLC区域的上下间隔限为最大60/最小40, 左右间隔限为最大60/最小30。

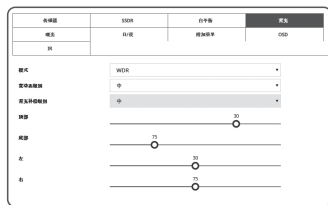


设置WDR

将在同时存在明亮和阴暗区域的场景中显示尖锐的物件图像。

1. 选择 <背光>。
2. 将 <模式> 设置为 <WDR>。
3. 指定 <宽动态级别>。

- 建议在室内环境中使用宽动态。
- 在宽动态模式下，黑暗区域和明亮区域之间可能存在噪音。
- 无论何时打开或关闭宽动态模式，均会初始化最大和最小快门值。
- 使用 WDR 时，帧速率将减半。
示例) 在使用 30fps 模式和 WDR 模式时，将输出帧速率为 15fps 的视频。



设置曝光

可以调整摄像机的曝光级别。

1. 选择 <曝光>。
2. 设置各个项目。
 - 亮度：调整屏幕亮度。
 - 最小快门：最长曝光时间的限值。
 - 快门是用于设置传感器曝光时间范围的模式，该范围指定了电子快门移动的上限和下限。
 - 如果快门值低于传感器模式中指定的值，在黑暗条件下可以降低帧率。
 - 最大快门：最短曝光时间的限值。
 - 防闪烁：用于防止周围光线和频率之间不协调引起的屏幕闪烁。
 - SSNR：视频噪点已消除。
 - SSNR 级别：调整降噪级别。
 - 自动增益：选择自动增益控制模式。
因在低照度环境下摄影而视频亮度低于特定值时，通过调整视频增益的控制感度，调整整个亮度。



- 根据快门的设置范围，图像曝光有可能饱和。

设置屏幕

设置日夜

1. 选择 <日夜>。

2. 设置各个项目。

- 模式：“模式”用于将颜色调整为彩色或黑白。
 - 彩色：始终以彩色输出视频。
 - 黑白：始终以黑白输出视频。
 - 自动：通常设置为彩色，但在夜晚亮度较低时使用黑白。
 - 如果 <曝光> 菜单中的 AGC 设置为 <关>，无法将日/夜模式设置为 <自动>。
 - 外部：控制当警报输入端子与外部设备同步时的视频颜色。
 - 计划：设置摄像机以彩色模式工作的时间段。
- 等待时间：为启动日夜切换模式，设置各个亮度条件的维持时间。
- 持续时间：指定光照模式转换的时间间隔。
- 警报输入：当警报传感器打开或关闭时，视频设置为彩色或黑白。
 - 如果“日/夜”模式设置为“外部输入”，将禁用“事件警报输入”页面的警报输入功能。
- 激活时间（彩色）：指定彩色模式工作的时间计划。
 - 如果设置此项，从开始时间 00 秒 到结束时间 59 秒 会保持彩色模式。



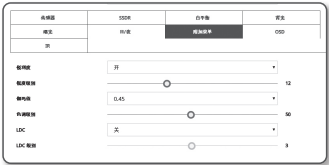
- 切换至日间/夜间模式时，无法使用移动探测模式。

设置附加菜单

1. 选择 <附加菜单>。

2. 设置各个项目。

- 锐利度：调整图像的锐利度。如果选择了<开>，您可以调整图像的锐利级别。
- 锐利度级别：级别越高，图像轮廓变得越清晰和越清楚。
- 伽玛值：调整图像的对比度。
- 色调级别：调整视频颜色的强度。
- LDC：启用/禁用图像失真校正。
- LDC 级别：调整失真校正的程度。



设置 OSD

1. 选择 <OSD>。

2. 设置各个项目。

- 摄像机名称：指定要显示在屏幕上的摄像机名称。选择<使用>复选框即可添加摄像机名称。
 - 添加：点击<添加>按钮，共可添加 5 行内容，每行 15 个字符，共可添加 60 个字符。
 - 预览：点击<预览>按钮查看屏幕上将显示的摄像机名称。
- 摄像机名称 X、Y 位置：指定显示在屏幕上的摄像机名称的位置。
- 日期和时间：设置屏幕上的时间显示和日期格式。
- 日期和时间 X、Y 位置：指定在屏幕上显示时间的位置。
- 工作日显示：设置在屏幕上是否显示星期信息。
- 大小：将 OSD 大小设置为小/中/大。
- 颜色：将 OSD 颜色设置为白色/红色/蓝色/绿色/黑色/灰色。
- 透明：将透明度设置为不透明/透明度 1/透明度 2/透明度 3。
- 覆盖图像：用户所选图像将显示在屏幕左上方。
 - 浏览 (📁)：搜索并选择位图类型文件。
 - 上传：上传选定的文件。
 - 删除：删除选定的文件。



■ 适用文件要求包括 16 位（不支持 RGB565）或 24 位的位图文件，宽、高为 128 像素且文件大小为 52KB 及以下。

- 若可调整位置的项目(摄像机名称、日期&时间)被固定的其他OSD项目所覆盖，有可能无法显示在屏幕上。
- 如果您更改了语言，X-Y 坐标将予以初始化。
建议设置完语言之后再设置 X-Y 坐标。

设置 IR

1. 选择 <IR>。

2. 设置各个项目。

- 模式：黑白模式下，IR LED亮起，因可防止视频中心的饱和现象，在近距离也能识别被摄体。
 - 关：将禁用红外模式。
 - 自动：根据中心屏幕上物体的亮度调节红外亮度。



对焦设置

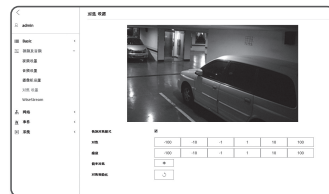
您可以调节视频图像的焦点和缩放比率。

1. 从设置菜单，选择 <视频及音频 (三)> 选项卡。

2. 单击 <对焦设置>。

3. 按照以下步骤设置聚焦。

- 1) 对焦初始化：请按[]按钮。
可将焦点移动至默认位置(x1)。
 - 注意：建议在初次使用摄像机时执行聚焦重置操作。
 - 2) 对焦（镜头调整）：调整镜头焦距（远 ↔ 近）并锐化图像。
 - 3) 缩放（镜头调整）：手动调整变焦倍率（宽 ↔ 望远）。
 - 4) 简单对焦：在屏幕上拖曳鼠标以指定要设置自动对焦的位置。按[]按钮使视频自动聚焦。
- 快速对焦模式：快速设置焦点。



- 在下列情况下，简单对焦模式可能无法正确调适：
 - 在简单对焦模式下突然切换至物体（突然移动、出现或消失）
 - 在简单对焦模式下亮度彻底改变
 - 图像对比度低
 - 摄像机前面或周围有强光源时
 - 如果未重置聚焦，可能出现聚焦调整故障。
- 如果焦点不适当的离开上面提到的位置，请使用 [ -100  -10  -1  1  10  100] 按钮来手动调节焦点。
- 在难以应用简单对焦的情况下，请尝试使用手动对焦模式。

设置屏幕

WiseStream

用于检测未发生大幅度运动环境下的视频复杂度并调整视频质量降低输出比特率的功能。生成运动时变回至视频质量原始设置值，以防止视频信息丢失。

1. 从设置菜单，选择 <视频及音频 (🔊)> 选项卡。
2. 单击 <WideStream>。
3. 选择智能流的亮度。
 - 关：将禁用智能流功能。
 - 低：小幅降低视频图像质量。当比特率设为“关”时，图像质量最多可降低 15%。
 - 中：中等幅度降低视频图像质量。当比特率设为“关”时，图像质量最多可降低 30%。
 - 高：大幅降低视频图像质量。当比特率设为“关”时，图像质量最多可降低 50%。
4. 完成后，请单击 [应用]。



- ! ■ 出现以下情况时，智能流 (WiseStream) 功能可能出现故障。
- 突然进行屏幕切换可能导致视频失真。
 - 不宜用于屏幕上显示过多移动和运动事件的环境下。

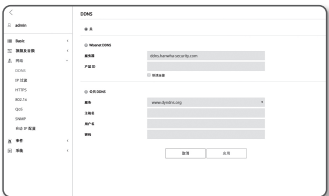
网络设置

DDNS

DDNS(动态域名服务)是Dynamic Domain Name Service的缩写，该服务将摄像机的 IP 地址转换成一般主机名，以使用户可以轻松记住它。

! ■ 您只有在接通互联网时才能使用 DDNS 服务。

1. 从设置菜单，选择 <网络 (🌐)> 选项卡。
2. 单击 <DDNS>。
3. 选择 <DDNS> 连接类型。
4. 根据所选类型键入 DDNS 项目。
 - Wisenet DDNS：如果使用 Hanwha Vision 提供的 DDNS 服务器，请选择此项。
 - 产品 ID：输入向 Wisenet DDNS 服务注册的产品 ID。
 - Quick connect：当与支持 UPnP（通用即插即用）的路由器配合使用时，它会自动设置端口转发。
 - 公共 DDNS：在提供的公开网站中，使用公共 DDNS 服务器时，选择此项。
 - 服务：选择要使用的公共 DDNS 服务器。
 - 主机名：输入向 DDNS 服务器注册的主机的名称。
 - 用户名：输入 DDNS 服务器的用户名。
 - 密码：输入 DDNS 服务器的密码。
5. 完成后，请单击 [应用]。



✍ ■ 如果不使用支持 UPnP 功能的路由器、或不使用 Quick connect 而要使用 DDNS 的话，在路由器上手动设置端口转发。有关如何设置端口转发，请参阅“路由器端口设置”。（第 21 页）

! ■ 如果选择了 <Quick connect>，请确保选择 Wisenet DDNS 服务。

注册 DDNS

向 Wisenet DDNS 注册您的产品

1. 访问 Wisenet DDNS 网站 (<http://ddns.hanwha-security.com>) 并注册会员。

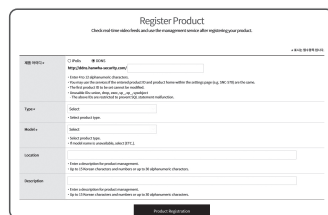


2. 从顶部的菜单栏，选择 <MY DDNS>。



3. 点击 [Register Product] 选项卡。

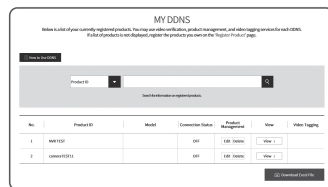
4. 输入产品 ID。



5. 指定 <Type> 和 <Model>。

6. 指定产品位置及说明（如有必要）。

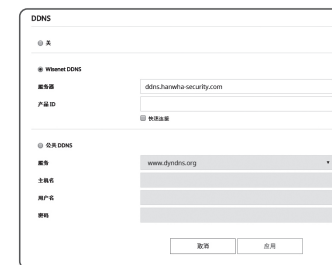
7. 单击 [Product Registration]。
您可在列表中看到新注册的产品信息。



No.	Product ID	Model	Connection Status	Location	Video Tagging
1	WEB-100	WEB-100	OK	1.00.0000	Yes
2	WEB-100	WEB-100	OK	1.00.0000	Yes

在摄像机设置中连接至 Wisenet DDNS

1. 从 DDNS 设置页面，将 <DDNS> 设置为 <Wisenet DDNS>。
2. 提供向 DDNS 网站注册产品 ID 时指定的 <产品 ID>。
3. 单击 [应用]。
成功进行连接后，屏幕上将显示消息 <(成功)>。



在摄像机设置中配置公共 DDNS

1. 在 DDNS 设置页面，将 <DDNS> 项目设置为 <公共 DDNS>。
2. 输入相应站点的主机名、用户名和密码。
3. 单击 [应用] 按钮。
如果正确建立连接，<(成功)> 将会出现。
4. 完成后，请单击 [应用]。

■ 要正确使用 DDNS 服务，需要 DDNS 设置和路由器的端口转发设置。
对于端口转发设置，请参阅“路由器端口设置”。（第 21 页）

设置屏幕

IP 过滤

对于特定IP, 可创建允许或拒绝它的IP列表。

1. 从设置菜单, 选择 <网络 (🌐)> 选项卡。
2. 单击 <IP 过滤>。
3. 选择 <过滤类型>。
 - 拒绝注册的 IP: 如果选择此项, 将限制过滤列表的那些 IP 进行的访问。
 - 允许注册的 IP: 如果选择此项, 将只接受过滤列表的那些 IP 进行的访问。
4. 单击 [添加] 按钮。
将会创建 IP 列表。
5. 输入要允许或拒绝的IP。
输入 IP 地址和前缀时, 可用的 IP 地址列表将出现在右侧过滤范围列中。



- 如果为 IP 过滤 选择了 <允许注册的 IP> 并且 <IP & 端口> 的 <IPv6 设置> 设为 <使用>, 则应该分配当前计算机配置的 IPv4 和 IPv6 地址。
 - 不能将用于当前设置的计算机的 IP 地址添加至 <拒绝注册的 IP>, 应该将它添加至 <允许注册的 IP>。
 - 只有设置为 <使用> 的 IP 地址才会显示在过滤器列表中。
6. 从列表中选择要删除的 IP。
单击 [删除] 按钮。
 7. 完成后, 请单击 [应用]。

HTTPS

可以选择安全连接系统或安装公共证书用于此目的。

1. 从设置菜单, 选择 <网络 (🌐)> 选项卡。
2. 单击 <HTTPS>。
3. 选择安全连接系统。
 - 若使用 HTTPS 模式访问摄像机, 您必须以 https://<Camera_IP> 形式键入摄像机的 IP 地址。
如果未在 Internet Explorer 中以 HTTPS 模式配置 Web Viewer 设置, 请按如下所示编辑 Internet 选项: <菜单 → 工具 → Internet 选项 → 高级 → 安全 → 取消选择 TLS 1.0 并选择 TLS 1.1、TLS 1.2>
4. 搜索要安装在摄像机上的公共证书。
要将证书安装在摄像机上, 需要提供证书名称 (可由用户随意分配)、认证机构颁发的证书文件以及密钥文件。
 - 仅当安装了公共证书, <HTTPS (使用公共证书的安全连接模式)> 项目才会活动。
5. 完成后, 请单击 [应用]。



安装证书

1. 输入证书名称。
2. 单击 [浏览 (🔍)] 按钮, 选择要安装的公共证书文件和密钥文件, 然后单击 [安装] 按钮。

删除证书

1. 单击 [删除] 按钮。
2. 要删除公共证书, 应该在 <HTTP (不使用安全连接)> 或 <HTTPS (使用自用证书的安全连接模式)> 模式下访问网络视频解码器。

802.1x

连接网络时，您可以选择是否使用 802.1x 协议，然后安装证书。

1. 从设置菜单，选择 <网络 (🌐)> 选项卡。
2. 单击 <802.1x>。
3. 设置 <IEEE 802.1x 设置>。
 - IEEE 802.1x：指定使用 802.1x 协议。
 - EAP 类型：选择 EAP-TLS 或 LEAP。
 - EAPOL 版本：选择版本 1 或 2。
 - ID：在 EAP-TLS 中输入客户端证书 ID，在 LEAP 中输入用户 ID。
 - 密码：在 EAP-TLS 中输入客户端私钥密码，在 LEAP 中输入用户密码。如果它使用未加密的密钥文件，则无需在 EAP-TLS 中输入密码。



- 如果连接的网络设备不支持 802.1x 协议，那么即使您设置了该协议，它也不会正常执行。
- LEAP 是一种安全性较差的身份验证方法。仅在 EAP-TLS 不可用的情况下使用。

4. 安装/移除证书。
只有 EAP-TLS 需要证书。
 - CA 证书：选择包含公共密钥的公共证书。
 - 客户端证书：选择包含客户端证书密钥的公共证书。
 - 客户端私钥：选择包含客户端私钥的公共证书。
5. 完成后，请单击 [应用]。

安装/删除与 802.1x 相关的证书

1. 按每个项目的 [浏览 (🔍)] 按钮并选择要安装的证书。
2. 如果未安装任何证书，则会看到“不可用”出现在所选项目旁边。
3. 按 [安装] 按钮以开始安装，并在项目旁边显示消息“已安装”。
4. 按 [删除] 按钮以删除证书。

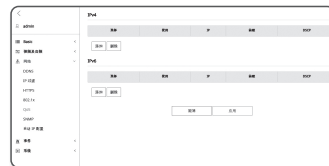
QoS

您可以指定优先级以确保特定 IP 的传输率稳定。

1. 从设置菜单，选择 <网络 (🌐)> 选项卡。
2. 单击 <QoS>。
3. 单击 [添加] 按钮。
将会创建 IP 列表。
4. 输入将应用 QoS 的 IP 地址。

- 默认前缀对于 IPv4 是 32；对于 DSCP，默认值设置为 63。
- 只能为设置为 <使用> 的 IP 地址设置优先级。

5. 从列表中选择要删除的 IP。
单击 [删除] 按钮。
6. 完成后，请单击 [应用]。



SNMP

通过 SNMP 协议，系统或网络管理员可以监视远程站点上的网络设备，以及配置环境设置。

1. 从设置菜单，选择 <网络 (🌐)> 选项卡。
2. 单击 <SNMP>。
3. 指定 <SNMP>。
 - 启用 SNMP v1：SNMP V1 将处于活动状态。
 - 启用 SNMP v2c：SNMP V2c 将处于活动状态。
 - 读取社区：为访问 SNMP 信息，输入只读社区名称。默认名称为 <public>。
 - 写入社区：为访问 SNMP 信息，输入只写社区名称。默认名称为 <write>。
 - 启用 SNMP v3：SNMP V3 将处于活动状态。
 - 密码：指定 SNMP V3 的默认密码。
 - 默认密码有被泄露的风险，建议安装产品后立即更改密码。请注意，未更改密码导致的安全和其他相关问题，用户自己承担责任。
 - 密码长度应该为 8 - 16 个字符。



设置屏幕

- 启用 SNMP Trap：SNMP Trap用于将重要事件和情况发送到管理员系统。
 - 社区：输入用于接收消息的Trap社区名称。
 - IP 地址：输入消息将发送到的 IP 地址。
 - 认证失败通知：指定当社区信息无效时是否生成事件。
 - 网络连接通知：指定当网络断开后恢复连接时是否生成事件。

4. 完成后，请单击 [应用]。

- 
- 仅当安全连接模式是 HTTPS 时，才能设置 SNMP v3。
请参阅“HTTPS”。（第 46 页）
 - 如果您不使用 SNMP v3，则可能出现安全问题。

自动 IP 配置

自动设置既能访问摄像机又能搜索的 IP。

1. 从设置菜单，选择 <网络 (🌐)> 选项卡。
2. 单击 <自动 IP 配置>。
3. 设置 <链路-本地 IPv4 地址>。
可以分配一个额外的 IP 地址以从链路本地网络访问摄像机。
 - 自动配置：指定“启用”或“禁用”链路本地 IPv4 地址。
 - IP 地址：显示所分配的 IP 地址。
 - 子网掩码：显示所分配 IP 的子网掩码。
4. 设置 <UPnP discovery>。
可以在支持 UPnP 协议的客户端和操作系统中自动搜索摄像机。
 - UPnP discovery：指定“启用”或“禁用”UPnP 发现。
 - 友好名称：显示摄像机名称。
友好名称的显示格式为 WISENET- <型号名称>-<MAC 地址>。

- 
- 在基本支持 UPnP 的 Windows 操作系统中，连接到网络的摄像机机会显示出来。

5. 设置 <Bonjour>。
可以在支持 Bonjour 协议的客户端和操作系统中自动搜索摄像机。
 - Bonjour：指定“启用”或“禁用”Bonjour 发现。
 - 友好名称：显示摄像机名称。
友好名称的显示格式为 WISENET- <型号名称>-<MAC 地址>。

- 
- 在默认支持 Bonjour 的 Mac 操作系统中，已连接的摄像机机会自动显示在 Safari Web浏览器的 Bonjour 书签中。
如果 Bonjour 书签没有显示出来，请在“首选项”菜单中检查书签设置。

6. 完成后，请单击 [应用]。



事件设置

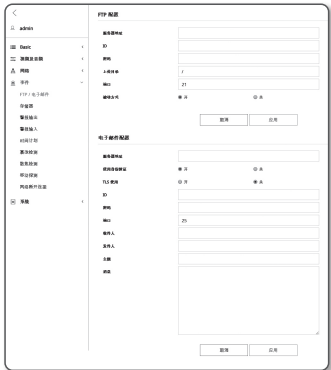
FTP / 电子邮件

可以配置 FTP/电子邮件服务器设置，以便在事件发生时可以将使用摄像机拍摄的图像传输到您的计算机。

1. 从设置菜单，选择 <事件 (🔔)> 选项卡。
2. 单击 <FTP / 电子邮件>。
3. 选择 <FTP 配置> 或 <E-mail 配置> 并输入/选择所需的值。

- FTP 配置
 - 服务器地址：输入您将警报或事件图像传输到的 FTP 服务器的 IP 地址。
 - ID：输入用于登录 FTP 服务器的用户 ID。
 - 密码：输入用于登录 FTP 服务器的用户帐户密码。
 - 上传目录：指定警报或事件图像将传输到的 FTP 路径。
 - 端口：FTP 服务器的默认端口为 21；但是，可以根据 FTP 服务器设置使用不同的端口号。
 - 被动方式：如果由于防火墙或 FTP 服务器设置需要以被动模式连接，请选择 <开>。
- E-mail 配置
 - 服务器地址：输入您将警报或事件图像传输到的电子邮件服务器的 SMTP 地址。
 - 使用身份验证：选择是否使用身份验证。
 - TLS 使用：指定使用 TLS。
 - ID：输入用于登录电子邮件服务器的用户 ID。
 - 密码：输入用于登录电子邮件服务器的用户帐户密码。
 - 端口：电子邮件服务器的默认端口为 25；但是，可以根据电子邮件服务器设置使用不同的端口号。
 - 收件人：输入电子邮件收件人的地址。
 - 发件人：输入电子邮件发件人的地址。如果发件人地址不正确，来自发件人的电子邮件可能会被电子邮件服务器分类为垃圾邮件，这样可能不发送。
 - 主题：输入电子邮件的主题。
 - 消息：为邮件提供文本。将警报或事件图像附加至准备的电子邮件。

4. 完成后，请单击 [应用]。



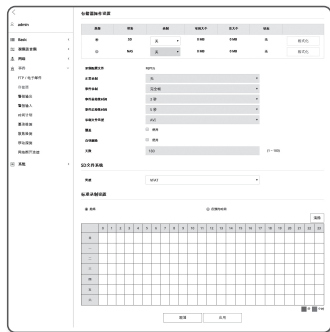
存储器

您可以在设备上激活录制，选择录制条件，检查已保存数据占用的容量，对设备自身进行格式化。

1. 从设置菜单，选择 <事件 (📹)> 选项卡。
2. 单击 <存储器>。
3. 选择用来保存数据的设备。



- 如果设备正在正确录制数据，将显示“录制”。
- 如果显示“错误”信息，请检查以下各项：
 - 检查存储器，确认它已连接到设备。
 - 检查存储器中的文件，确认它们是否受损。
 - 检查存储器，确认它们是否受到物理损伤。
- 如果按照上面指示操作之后“错误”消仍未消失，请格式化 Micro SD 卡。
- 如果错误消息仍然存在，请更换 Micro SD 卡。
- 如果您不在设置中将按钮移到“关”位置就移除 Micro SD 卡或者如果您将摄像机连接到不稳定的电源，那么 Micro SD 卡可能会受损。



- 在录制模式下运行完后，您仅限于 2 个同时可访问的配置文件和 3 个连接的用户。然而，现有用户将保持不变。

在 Micro SD 存储卡上进行录制

1. 将 SD 卡录制设置为 <开>。
2. 单击 [应用] 按钮。
3. 检查存储卡的 <可用大小> 和 <总大小>。
您可以通过单击 <格式化> 按钮来格式化 Micro SD 卡。
 - 如果 Micro SD 存储卡以低于建议值的速度运行，可能会跳过某些帧。
如需更多信息，请参阅“建议的 Micro SD/SDHC/SDXC 存储卡规格”。(第 6 页)
 - 对于大容量的 Micro SD 存储卡，格式化将相应变慢。
 - 将摄像机设置为较高分辨率、较高位速率或较高帧率时，数据流量会增大。
如果数据流量较大，可能会跳过某个帧，但仍会将其全帧存储。
 - 发生跳帧时，将以最低每秒一幅图像的速度保存图像。
4. 指定存储操作。
 - 录制配置文件：显示要录制的配置文件名称。
 - 正常录制：以特定帧速率进行录制。
 - 事件录制：设置发生的特定事件的录制类型。

- 事件前持续时间：指定警报发出之前的时间点；从该时间点开始，将传输图像。最多可以指定警报发出之前 5 秒。
- 事件后持续时间：指定事件发生后图像的传输时间。最长可保存事件发生 120 秒后的图像。
- 录制文件类型：指定所录制图像的文件格式。
 - STW：Hanwha Vision 独有的文件格式。
 - AVI：传统的 avi 格式。



- 如果存储文件类型改变，那么现有数据将被格式化。

- 覆盖：如果 Micro SD 存储卡已满，将删除旧数据后保存新数据。
- 自动删除：删除指定时间段的数据，不删除其他数据。
可以设置的范围是 1 到 180 天。



- 如果超出保留时间段，将自动删除相应数据并录制新数据。数据一旦删除即无法恢复。

5. 设置<SD文件系统>。

- 类型：摄像机支持 FAT 和 ext4 作为 SD 卡文件系统，用户可对其进行配置。
(但为使 ext4 文件系统与 Window o/s 交互，需要额外的应用程序。)
- 如上述设置发生变化，现有数据将被格式化。
- 对 ext4 文件格式的 SD 卡进行格式化可能需要长达 10 分钟的时间。

6. 指定 <标准录制设置>。

- 始终：始终将录制的视频保存在 Micro SD 存储卡中。
 - 如果设置为始终，则激活时间无法更改。
- 仅预约时间：仅在指定星期几的指定时间录制。
- [清除]：清除选择选定的时间。

7. 完成后，请单击 [应用]。

设置屏幕

如果希望录制到 NAS 中

1. 设置保存操作和基本录制。

只有 NAS 符合建议规格，才能支持自动删除。

2. 输入在 NAS 中注册的信息。

- IP 地址：为NAS分配的固有的IP地址。
- ID：这是 NAS 中注册的一个 ID。
- 密码：NAS 中注册的密码。
- 默认文件夹：指定用来保存数据的 NAS 用户文件夹。

3. 单击 [测试] 按钮来查看是否可以成功连接到 NAS。

如果显示成功消息，则意味着您可以成功地数据保存到 NAS 中。

如果显示失败消息，请检查以下方面。

- 确认 NAS 的 IP 地址有效。
- 确认 NAS 的 ID/密码有效。
- 确认您可以访问使用 NAS 的 ID 指定为基本文件夹的文件夹。
- 确认 NAS 的 SMB/CIFS 项已被取消选中。
- 确认 NAS IP 地址和摄像机 IP 地址的格式正确。
Ex) NAS 和摄像机子网掩码的初始值是 255.255.255.0。
如果 IP 地址是 192.168.20.32，NAS IP 地址的范围应该是 192.168.20.1~192.168.20.255。
- 检查在未对已存或使用过的默认文件夹进行格式化前，是否以其他用户进行连接。
- 确认使用了建议的 NAS 设备。

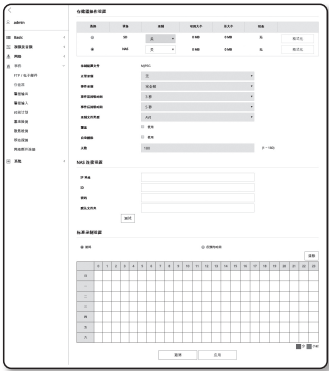
4. 设置结束后，将 NAS 装置设置为 <开>。

5. 单击 [应用] 按钮。

6. 登录 NAS 并检查 <可用大小> 和 <总大小>。

您可以通过单击 <格式化> 按钮来格式化在 NAS 连接设置中指定的默认文件夹。

- 由于使用 NAS 时临时网络中断之后可能没有保存数据，因此我们建议您同时使用 SD 防止录制的图像丢失。
- 将摄像机设置为较高分辨率、较高位速率或较高帧率时，数据流量会增大。
如果数据流量较大，可能会跳过某个帧，但仍会将其全帧存储。
- 发生跳帧时，将以最低每秒一幅图像的速度保存图像。

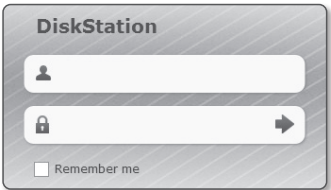


NAS(网络连接存储器)指南

- 由于使用 NAS 时临时网络中断之后可能没有保存数据，因此我们建议您同时使用 SD 防止录制的图像丢失。
- 如果设置允许同时连接和使用 Micro SD 存储卡和 NAS，NAS 享有较高录制优先级。
- 如果NAS的覆盖设置为<关>，并可用容量低于1%，视频将保存在Micro SD卡上。
- 如果正将数据保存到 NAS，在插入其他摄像机使用的 Micro SD 存储卡时，可能无法保存数据。
- NAS 建议规格：请参阅“NAS 建议规格”。（第 6 页）
- 如果在数据保存到 NAS 期间更改 NAS 保存设置，该更改将不会立即在系统中反映出来。
- 如果在数据保存期间移除 NAS 设备，或者网络断开，NAS 保存操作将异常终止。
- NAS 保存只允许一台摄像机访问一个文件夹。不允许使用另一台摄像机登录，图像将不会保存。

下面描述了如何按照 Synology NAS（建议产品之一）方法使用 NAS 保存数据。

1. 以管理员(Admin)账户访问Synology NAS。
在本例中，NAS IP 地址设置为 [192.168.20.253]。



2. 如果作为管理员访问，将显示以下屏幕。单击 [Control Panel]。



3. 在文件共享和权限菜单中单击 <Shared Folder>。



4. 单击 [Create] 按钮。

5. 在输入共享文件夹名称 (ID) 后，单击 [OK] 按钮来创建共享文件夹。
在本例中，共享文件夹名称是 [testDirectory]。

6. 在 Windows 中，针对 NAS 访问，如下设置共享文件夹的权限。
选中管理员的 [Read/Write] 权限。

7. 在文件共享和权限菜单中单击 <User>。

8. 单击 [Create] 按钮后，输入名称 (ID) 和密码。

在本例中，名称 (ID) 设置为 [testID]，密码设置为 [testID]。

9. 在 Windows 中，设置 NAS 访问的权限。

选中在第4阶段所创建的共享文件夹“testDirectory”的 [Read/Write]权限。

10. 至此 NAS 中的基本设置已完成。

将摄像机连接到实际 NAS。
如下所示，输入 NAS 连接设置项。

11. 在输入项目 10 后，选中 <开>。

12. 单击 [应用] 按钮。

通过使用 NAS 来完成保存。

警报输出

1. 从设置菜单，选择 <事件 (E)> 选项卡。

2. 单击 <警报输出>。

3. 配置摄像机警报输出设置。

■ 如果您更改警报输出类型，监视页面上的警报输出按钮和事件设置页面上显示的警报输出类型会相应地更改。

• 类型

- 常开：如果将警报输出设备“开路”状态视为正常，当触发警报事件时，则变成“闭路”状态。
- 常闭：如果将警报输出设备“闭路”状态视为正常，当触发警报事件时，则变成“开路”状态。

• 模式：设置警报输出方式。

■ 以下是在禁用时单击警报输出按钮时操作之间的差异。

- 脉冲：在持续时间（切换间隔）指定的时间段内激活，然后自动变成不活动。
- 活动/不活动：它保持为已激活，直到用户再次单击按钮以使它不活动为止。

• 转换条件：如果模式设置为脉冲，则设置保持激活的警报持续时间：1 到 15 秒。

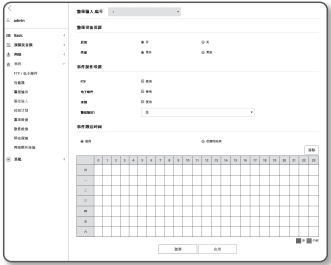
4. 完成后，请单击 [应用]。

设置屏幕

警报输入

可以设置警报输入类型、激活时间和工作模式。

1. 从设置菜单，选择 <事件 (查)> 选项卡。
2. 单击 <警报输入>。
3. 设置是否 <启用>。
4. 选择类型。
 - 常开：它通常是打开的，但是如果关闭，将触发警报。
 - 常闭：它通常是关闭的，但是如果打开，将触发警报。
5. 指定 <事件激活时间>。
 - 始终：当警报发出时，将始终检查。当警报发出时，它将在运行的模式下激活。
 - 如果设置为 <始终>，激活时间将无法更改。
 - 仅预约时间：警报发出时，在一周指定的一天检查指定的时间长度。当警报发出时，它将在运行的模式下激活。
 - [清除]：重置全部设置。
 - 分：单击“激活时间”中的某个区域并以分钟为单位设置时间。
 - 时：在“激活时间”上拖动鼠标并以小时为单位设置时间。
6. 指定警报发出时将执行的操作。
 - FTP：在警报输入设置中指定使用 FTP 传输。
 - 有关详细信息，请参阅“FTP/电子邮件”。(第 48 页)
 - 电子邮件：在警报输入设置中指定电子邮件传输的使用。
 - 有关详细信息，请参阅“FTP/电子邮件”。(第 48 页)
 - 录制：在使用时，您可以将警报记录设置至 Micro SD 卡或 NAS。
 - 在 <存储器> 中将 <设备> 设置为 <开>。(第 49 页)
 - 警报输出1：选择如果警报进入是否设置警报输出，并指定警报输出时间。
7. 完成后，请单击 [应用]。

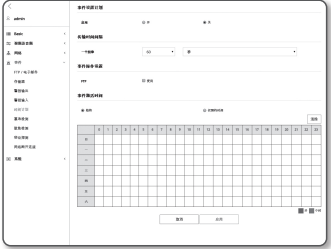


时间计划

无论是否发生事件，均可在计划操作时间以固定时间间隔配置的传输图像设置。

1. 从设置菜单，选择 <事件 (查)> 选项卡。
2. 单击 <时间计划>。
3. 设置是否 <启用>。
4. 指定 <传输时间间隔>。
5. 指定 <事件激活时间>。
 - 始终：始终启动已设置的模式。
 - 仅预约时间：仅在指定的星期和时间启动已设置的模式。
6. 指定激活条件。
 - FTP：指定事件发生时 FTP 传输的使用。
 - 有关详细信息，请参阅“FTP/电子邮件”。(第 48 页)
7. 完成后，请单击 [应用]。

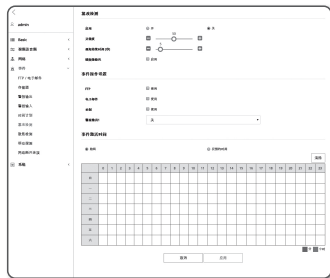
! 传输间隔设置值必须小于预设激活间隔才能成功进行图像传输。



防拆检测

可将摄像机设置为在侦测篡改时(例如,视频被遮挡或移动),发出事件信号。

1. 从设置菜单,选择<事件(🔧)>选项卡。
2. 单击<防拆检测>。
3. 设置是否<启用>。
4. 设置防拆检测灵敏度。灵敏度越高,越能检测最小的拆离尝试。
5. 指定最短监控时长。
针对所配置的最短监控时长而言,如高于探测级别的状态仍然持续,则生成事件信号(单位:秒)。
6. 指定是否不包括黑暗区域。
由于被物体遮挡而出现对黑暗环境去光照的现象,导致此功能难以识别黑暗环境。即便如此,如果您想要排除屏幕亮度突然出现变化的警报(如去光照),那么应启用该功能。
7. 指定激活时间和激活条件。
■ 有关<事件激活时间>和<事件操作设置>的详细信息,请参阅“警报输入”。(第 52 页)
8. 完成后,请单击[应用]。

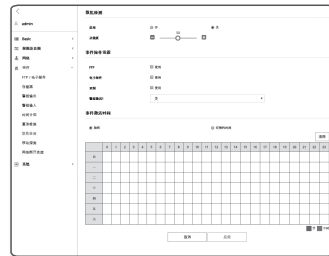


- 在下列情况下,默认防拆检测功能可能无法正常工作:
- 在简单背景或低照度以及夜晚情况下,可能会降低检测灵敏度。
 - 摄像机摇晃严重或照明激烈变化会导致错误地视为拆离。
 - 防拆检测可能会在拆离发生之后的一定时间(最多 5 秒)进行。
 - 一旦检测到拆离,摄像机将继续在特定稳定性时间(大约 5 秒)之后继续标准操作,在此稳定性期间不会执行任何检测。
- 如频繁生成错误警报,需逐渐降低灵敏度以减少错误警报数量。
如果选择较低灵敏度,则仅进行突然的篡改检测。
- 如果使用较高灵敏度,即使是出现极小的变化,也可能会生成警报,但也可能会因物体或亮度发生变化而出现错误检测。

散焦检测

可以配置设置,以在检测到摄像机镜头出现散焦时生成警报信号。

1. 从设置菜单,选择<事件(🔧)>选项卡。
2. 单击<散焦检测>。
3. 设置是否<启用>。
4. 设置灵敏度。
灵敏度值越高,散焦检测精度越高。
5. 指定激活时间和激活条件。
■ 有关<事件激活时间>和<事件操作设置>的详细信息,请参阅“警报输入”。(第 52 页)
6. 完成后,请单击[应用]。

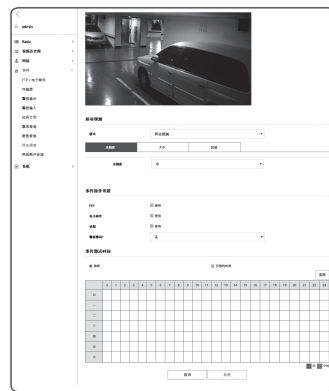


- 在出现散焦情况之后,检测散焦过程可能需要一段时间(最多 5 秒)。
- 出现以下情况时,散焦检测性能可能受损或出现故障。
- 单调的监控环境、夜间或低照度环境
 - 光线突然变化(即关闭室内光源)
 - 镜头被大体积物体遮挡,覆盖几乎整个屏幕画面
 - 更改摄像机位置可以变更聚焦对象。

移动探测

可以配置设置,以在发生移动探测事件时生成事件信号。

1. 从设置菜单,选择<事件(🔧)>选项卡。
2. 单击<移动探测>。
3. 启用移动探测模式。
4. 设置<灵敏度>、<大小>和<区域>。
5. 指定激活时间和激活条件。
■ 有关<事件激活时间>和<事件操作设置>的详细信息,请参阅“警报输入”。(第 52 页)
6. 完成后,请单击[应用]。



设置屏幕



- 在使用之前，设置最小和最大移动大小以适合要探测的所需迁移移动范围。
- 物体的探测到大小与实际大小可能会有差异，视其形状而定。
- 从屏幕顶部开始，最多可以显示 16 个物体。
- 出现以下情况时，检测性能可能受损或出现故障。
 - 拍摄对象的颜色或亮度与背景类似。
 - 摄像机视野边界区域周围的小活动。
 - 由于场景变化、照明快速变化或其他原因，多次移动随机连续发生。
 - 固定的对象在一个位置连续不断地移动。
 - 位置变化不大的移动，例如逐渐靠近摄像机或从摄像机中慢慢消失。
 - 移动的对象离摄像机太近
 - 对象隐藏在其他对象后面。
 - 2 个或更多对象重叠，或者 1 个对象被分成多个对象。
 - 对象速度太快（若要探测，一个对象应该在邻近的帧之间重叠）。
 - 由于太阳直射、照明或头灯等强光而出现反射 / 视线模糊 / 阴影。
 - 在大雪、大雨、大风或黎明 / 黄昏环境中。

使用移动探测

它会探测满足灵敏度、大小和区域指定的所有条件的移动。

1. 选择移动探测模式。
 2. 选择 <灵敏度> 选项卡以设置灵敏度级别。可以设置传感器的灵敏度以检测监视视频中脱离背景的移动。
-
- 在可以清楚区分物体与背景的情况下，将此项设置为低灵敏度级别。在难以区分物体的相反情况下，如低照度环境中，请将此项设置为高级别。
 3. 选择 <大小> 选项卡。

您可以限制要探测的移动的最小/最大大小。

 - Minimum (pixel)：要设置被探测移动的最小大小，请选择 <Minimum (pixel)>，然后使用鼠标指向屏幕上的位置并拖动至所需大小。
 - Maximum (pixel)：要设置被探测移动的最大大小，请选择 <Maximum (pixel)>，然后使用鼠标指向屏幕上的位置并拖动至所需大小。

- 无法探测小于指定最小大小或大于最大大小的移动。为了避免大小杂讯导致的意外探测，请根据环境相应地设置最小/最大大小。

请注意，相同位置处的相同移动在其检测大小方面可能会检测到不同；建议您在设置最小/最大探测大小时，考虑并包括允差。
4. 选择 <区域> 选项卡。

您可以指定屏幕上要包括到探测中或从探测中排除的区域。
您最多可以指定 4 个区域。

 - 检测区域：将整个屏幕设置为从探测中排除，并将指定的区域添加为移动探测区域。使用鼠标在图像上选择 4 个顶点以指定探测区域。
 - 除外区域：将整个屏幕设置为移动探测区域，并排除指定的区域作为不探测的区域。使用鼠标在图像上选择 4 个顶点以指定非探测区域。
 5. 如要删除指定区域，在视频画面上单击鼠标右键，点击弹出窗口中显示的[删除]按钮。
 6. 完成后，请单击 [应用]。
- ## 网络断开连接
- 断开网络连接时，将视作保存事件。
1. 从设置菜单，选择 <事件 (🔧)> 选项卡。
 2. 单击 <网络断开连接>。
 3. 设置是否 <启用>。
 4. 指定激活时间和激活条件。
 - 有关 <事件激活时间> 和 <事件操作设置> 的详细信息，请参阅“警报输入”。(第 52 页)
 5. 完成后，请单击 [应用]。
-
- 54_ 设置屏幕

系统设置

产品信息

1. 从设置菜单，选择 <系统 (⚙️)> 选项卡。
2. 单击 <产品信息>。
3. 检查摄像机信息，或根据网络环境提供详细信息。
 - 型号：产品的型号名称。
 - 序列号：产品序列号。
 - 设备名称：提供将在现场屏幕上显示的设备名称。
 - 位置：指定安装摄像机的位置。
 - 描述：提供有关摄像机位置的详细信息。
 - 备忘录：提供有关摄像机的说明以便更好理解。
 - 语言：选择 Web 查看器 OSD 的首选语言。



- 默认语言设置为 <中文>。

4. 完成后，请单击 [应用]。

升级 / 重新

1. 从设置菜单，选择 <系统 (⚙️)> 选项卡。
2. 单击 <升级 / 重新>。
3. 选择所需的项目并进行适当设置。
 - 升级：执行系统升级。
 - 出厂默认设置：重置为出厂默认值：对所有设置信息进行初始化，包括将摄像机设置为出厂重置状态。（但不将对日志进行初始化。）
 - 排除设置：勾选<网络参数除外>选项则重置网络参数以外的所有配置。
 - 如果重置摄像机，IP 寻址系统将默认为 DHCP。如果未找到 DHCP 服务器，将自动恢复之前的设置。
 - 配置备份与恢复：在执行恢复流程之前，备份当前的系统设置。备份或恢复之后，系统会自动重新启动。
 - 重新启动：重新启动系统。



执行升级

1. 单击 [浏览 (🔍)] 并指定要升级的文件。
2. 单击 [升级]。
3. 将弹出显示升级状态的“升级”进度条。
4. 完成升级之后，浏览器将会退出，并且摄像机会重新启动。



- 升级过程大约需要 10 分钟。
如果强行终止升级流程，升级将无法正确完成。
- 在重启系统期间，无法访问 Web Viewer。
- 可以从 Hanwha Vision 网站下载最新版本。

备份当前设置

1. 单击 [备份]。
“.bin”文件格式的文件的存储路径是“Library”->“Document”->“Downloads”。

恢复备份设置

1. 要恢复备份设置，请单击 [恢复]。
2. 选择所需的备份文件。



- 如果执行备份或恢复，Web 浏览器将关闭，且摄像机将重新启动。
- 如果您试图恢复其它型号上备份的配置 文件，有些功能可能会失去作用，您需要手动更改设置。

设置屏幕

日志

可以检查系统日志或事件日志。

1. 从设置菜单，选择 <系统 (🔧)> 选项卡。
2. 单击 <日志>。
3. 选择日志类型。
 - 访问日志：查看含有用户访问和访问时间的日志信息。
 - 系统日志：您可以检查系统日志，其中记录了所有系统更改，包括时间信息。
 - 事件日志：可以检查事件日志，包括时间信息。
4. 从右边的日志列表，选择要搜索的项目。
 - 如果在左上角的下拉列表中选择了 <All>，将显示适用日志类型的所有日志。
5. 如果一页无法显示所有可用的日志，请使用底部按钮以移至前一个、下一个或最后项目。
6. 单击 <备份> 按钮可将当前所选模式的所有日志数据保存在浏览器 download 文件夹的“摄像机在型号名称-模式-摄像机中创建的时间戳值.txt”文件中。

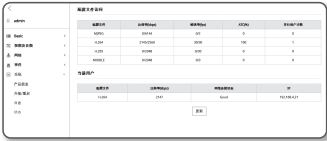


- 每页显示 15 个日志，最新的日志显示在顶部。
- 每一日志包含最多 1,000 条记录，当保存记录达 1,000 条之后，生成最新记录时将删除最早的日志。

状态

您可以检查配置文件信息。

1. 从设置菜单，选择 <系统 (🔧)> 选项卡。
2. 单击 <状态>。
3. 将显示配置文件信息屏幕。
 - 配置文件访问：显示新添加的配置文件的信息。
 - 配置文件：显示新添加的编解码器的信息。
 - 比特率(kbps)：显示实际比特率和设置的比特率。
 - 帧速率(fps)：显示实际帧速率和设置的帧速率。
 - ATC(%)：显示 ATC 状态。
 - 并行用户计数：显示访问配置文件的并行用户数。
 - 当前用户：显示有关用户访问 Web Viewer 的信息并显示监视视频。
 - 配置文件：显示用户访问的配置文件的名称。
 - 比特率(kbps)：显示当前比特率。
 - 网络连接状态：它表明网络是否工作正常。
 - IP：显示当前用户的 IP 地址。



- 要检查有关当前使用的配置文件的信息，请再次单击 [更新] 以刷新它。应用更改需要一些时间。

故障排除

故障	解决方法
在 Safari 上通过 HTTPS 访问无插件 web 浏览器时,将不会播放任何视频。	- 在初次访问 https 时出现的验证演出窗口中,点击"查看验证证书"然后选择"连接至指定 web 查看器 IP 时始终信任"复选框。 - 如在下列消息窗口中选择“下一步”之后,web 查看器依然无法播放视频,请按命令键 + Q 退出 Safari 浏览器,再次访问并执行上述步骤。
无法使用Web浏览器访问摄像机。	- 检查摄像机的网络设置 是否正确。 - 检查网络线缆是否正确 连接。 - 若使用 DHCP 连接、检查摄像机是否能够 无故障地获得动态 IP 地址。 - 若摄像机与IP路由器连接、确认是否 正确设置了端口转发。
查看器在监视期间断开。	- 已连接的查看器在摄像机或网络配置发生更改时会断开。 - 检查所有的网络连接。 - 若摄像机通过 PPPoE 网络进行连接, 查看器在网络状况不佳的情况下可能会断开。
初次访问 web 查看器或将流连接至客户端时,不会显示任何视频。	可使用的配置文件的最大数量是 3。如果您使用 4 个或更多配置文件, 可能使连接中断。 示例) 如先访问 MJPEG、H264 和 H265, 然后再访问其他配置文件, 将使连接中断。
IP 安装程序未检测到连接至网络的摄像机。	关闭 PC 上的防火墙设置、再次搜索摄像机。
图像重叠。	检查是否将多个摄像机应当设置的不同地址设为了同一多播地址。多个摄像机共享同一地址可能会导致图像的重叠。
无图像出现。	如果传输方法设置为多播, 请检查摄像机所连接的 LAN 中是否有路由器支持多播。

故障	解决方法
即使配置了音频输入设置,也不会录音。	您必须在 <Basic> - <视频配置文件> 中启用 <音频输入> 复选框。
即使在<事件>页面下<移动探测>项设置为<开>时生成了移动探测事件,也无法将文件传送至电子邮件。	按以下顺序验证设置： A. 检查 <日期和时间> 设置。 B. <移动探测> 应设置为 <启用>。 C. 检查 <事件设置> 菜单的 <电子邮件> 选项是否选择为使用。
无法录制到 Micro SD 内存卡。	检查内存卡是否有缺陷。
插入了 Micro SD 内存卡,但摄像机操作不正常。	- 检查是否以正确的方向插入内存卡。不能保证本摄像机装置能正常使用由其他设备格式化的内存卡 - 在 <设置> → <事件> → <存储器> 菜单中, 再次格式化内存卡。
无法录制到 NAS。	确认 NAS 中注册的信息正确无误。
系统报告 NAS 设置失败。	- 确认 NAS 的 IP 地址有效。 - 确认 NAS 的 ID/密码有效。 - 确认您可以访问使用 NAS 的 ID 指定为基本文件夹的文件夹。 - 确认 NAS 的 SMB/CIFS 项已被取消选中。 - 确认 NAS IP 地址和摄像机 IP 地址的格式正确。 Ex) NAS 和摄像机子网掩码的初始值是 255.255.255.0。 如果 IP 地址是 192.168.20.32, NAS IP 地址的范围应该是 192.168.20.1~192.168.20.255。 - 检查在未对已存或使用过的默认文件夹进行格式化前, 是否以其他用户进行连接。 - 确认使用了建议的 NAS 设备。

OPEN SOURCE ANNOUNCEMENT

GPL/LGPL software license

The software included in this product contains copyrighted software that is licensed under the GPL/LGPL. You may obtain the complete Corresponding Source code from us for a period of three years after our last shipment of this product by sending email to help.cctv@hanwha.com

If you want to obtain the complete Corresponding Source code in the physical medium such as CD-ROM, the cost of physically performing source distribution might be charged.

GPL SW

Component Name	License	URL
Base Kernel	GPL 2.0	
Busybox	GPL 2.0	http://www.busybox.net/downloads/snapshots
iproute2-4.3.0	GPL 2.0	
iptables-1.4.21	GPL 2.0	http://ftp.netfilter.org/pub/iptables
ethtool-4.2	GPL 2.0	
mtdd-1.5.2	GPL 2.0	ftp://ftp.infradead.org/pub/mtdd-utils
mi-diag-2.11	GPL 2.0	
rp-pppoe-3.11	GPL 2.0	http://www.roaringpenguin.com/pppoe/
wpa_supplicant-2.5	GPL 2.0	
bash-4.3.30	GPL 3.0	
zeroconf	GPL 2.0	

LGPL SW

Component Name	License	URL
glibc	LGPL 2.0	
inetutils	LGPL 3.0	
neon-0.29.6	LGPL 2.0	http://www.webdav.org/neon/

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C)1989, 1991 Free Software Foundation, Inc. 51 Franklin Street,Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software—to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too. When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs ; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have.

You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights. We protect your rights with two steps :

(1)Copyright the software, and (2)offer you this license which gives you legal permission to copy, distribute and/or modify the software. Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all. The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

Version 2, June 1991 Copyright (C) 1989, 1991 Free Software Foundation, Inc. 51 Franklin St

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License.

The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law : that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you". Activities other than copying, distribution and modification are not covered by this License ; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty ; and give any other recipients of the Program a copy of this License along with the Program. You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.
2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions :
 - a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
 - b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
 - c) If the modified program normally reads commands interactively when run,you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception:if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you ; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program. In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program)on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2)in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following :
 - a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange ; or,
 - b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machinereadable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange ; or,
 - c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.) The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major

components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable. If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License.

However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works.

These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all.

For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances. It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice. This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms. To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found. One line to give the program's name and an idea of what it does.

Copyright (C)yyyy name of author

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

Also add information on how to contact you by electronic and paper mail. If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'. This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than 'show w' and 'show c'; they could even be mouse-clicks or menu items—whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker. signature of Ty Coon, 1 April 1989 Ty Coon, President of Vice This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is the case, you want to do, use the GNU Lesser General Public License instead of this License.

GNU GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <<http://fsf.org/>>

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works. The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program—to make sure it remains free software for all its users.

We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors.

You can apply it to your programs, too. When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others. For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights. Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it. For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions. Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special anger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free. It precisely terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks. "The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy.

Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying. An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities.

However, it does not include the work's System Libraries, or generalpurpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source. The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you. Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

4. Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program. You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

- The work must carry prominent notices stating that you modified it, and giving a relevant date.
- The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".
- You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.
- If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so. A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access to legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

- Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.
- Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.
- Convey individual copies of the object code with a copy of the written offer to provide the corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
- Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.
- Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d. A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work. A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made. If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network. Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions. When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission. Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

- Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or
- Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or
- Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or
- Limiting the use for publicity purposes of names of licensors or authors of the material; or
- Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or
- Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors. All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying. If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms. Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation. Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License for any work from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice. Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

9. Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License. An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts. You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version". A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License. Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party. If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid. If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a

patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it. A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license

- (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or
- (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007. Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.

12. No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation. If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program. Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

OpenSSL Combined License

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.		
Component Name	License	URL
openssl-1.0.2e	OpenSSL	Combined License http://www.openssl.org/source

Copyright (c) 1998-2011 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgment: "This product includes software developed by the OpenSSL Project or use in the OpenSSL Toolkit. (<http://www.openssl.org/>)"
4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact openssl-core@openssl.org.
5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.

6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)"

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This product includes cryptographic software written by Eric Young (ey@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

Original SSLeay License

Copyright (C) 1995-1998 Eric Young (ey@cryptsoft.com). All rights reserved.

This package is an SSL implementation written by Eric Young (ey@cryptsoft.com).

The implementation was written so as to conform with Netscapes SSL.

This library is free for commercial and non-commercial use as long as the following conditions are aheared to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes cryptographic software written by Eric Young (ey@cryptsoft.com)" The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related :-).
4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The licence and distribution terms for any publicly available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]

BSD License

Some software components of this product incorporate source code covered under the BSD license as follows.

Component Name	License	URL
net-snmp-5.7.3	BSD	http://www.net-snmp.org/about/license.html
pcrc-8.38	BSD	
libcap-1.7.4	BSD 2.0	http://www.kernel.org/pub/linux/libs/security/linux-privs/libcap2
lighttpd-1.4.35	BSD 2.0	http://www.opensource.org/licenses/bsd-license.html
MiniUPnP Project Client	BSD 2.0	
pppd-2.4.7	BSD 2.0	http://opensource.org/licenses/BSD-3-Clause

lighttpd is a secure, fast, compliant, and very flexible webserver that has been optimized for high-performance environments. It has a very low memory footprint compared to other webserver and takes care of opload. Its advanced feature-set (FastCGI, CGI, Auth, Output-Compression, URL-Rewriting and many more) make lighttpd the perfect webserver-software for every server that suffers load problems. Simple Network Management Protocol (SNMP) is an Internetstandard protocol for managing devices on IP networks. It is used mostly in network management systems to monitor the devices attached to the network for conditions that need administrative attention. Net-SNMP is a suite of applications used to implement SNMP v1, SNMP v2c and SNMP v3 using both IPv4 and IPv6. For more additional information, send email to help.cctv@hanwha.com.

Copyright (C) 2004, Kneschke, incremental

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met :

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of the 'incremental' nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1998-2001 University College London

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, is permitted provided that the following conditions are met :

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: This product includes software developed by the Computer Science Department at University College London.
4. Neither the name of the University nor of the Department may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHORS AND CONTRIBUTORS "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1988, 1989, 1990, 1991, 1993, 1994, 1995, 1996 The Regents of the University of California.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the Regents of the University of California nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 2006, Creative Labs Inc

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the Creative Labs nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 2005-2012, Thomas BERNARD

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of Thomas BERNARD nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR

TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Various copyrights apply to this package, listed in various separate parts below. Please make sure that you read all the parts.

Part 1 : CMU/UCD copyright notice: (BSD like)

Copyright 1989, 1991, 1992 by Carnegie Mellon University Derivative Work - 1996, 1998-2000

Copyright 1996, 1998-2000 The Regents of the University of California

All Rights Reserved

Permission to use, copy, modify and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appears in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of CMU and The Regents of the University of California not be used in advertising or publicity pertaining to distribution of the software without specific written permission.

CMU AND THE REGENTS OF THE UNIVERSITY OF CALIFORNIA DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL CMU OR THE REGENTS OF THE UNIVERSITY OF CALIFORNIA BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM THE LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Part 2 : Networks Associates Technology, Inc copyright notice (BSD)

Copyright (c) 2001-2003, Networks Associates Technology, Inc

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: yy Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. yy Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. yy Neither the name of the Networks Associates Technology, Inc nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Part 3 : Cambridge Broadband Ltd. copyrightnotice (BSD)

Portions of this code are copyright (c) 2001-2003, Cambridge Broadband Ltd.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: yy Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. yy Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. yy The name of Cambridge Broadband Ltd. may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Part 4 : Sun Microsystems, Inc. copyright notice

(BSD)

Copyright (c) 2003 Sun Microsystems, Inc., 4150 Network

Circle, Santa Clara, California 95054, U.S.A.

All rights reserved.

Use is subject to license terms below. This distribution may include materials developed by third parties. Sun, Sun Microsystems, the Sun logo and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: yy Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. yy Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. yy Neither the name of the Sun Microsystems, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Part 5 : Sparta, Inc copyright notice (BSD)

Copyright (c) 2003-2009, Sparta, Inc

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: yy Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. yy Redistributions in binary form must reproduce the

above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. yy Neither the name of Sparta, Inc nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Part 6: Cisco/BUPTNIC copyright notice (BSD)

Copyright (c) 2004, Cisco, Inc and Information Network

Center of Beijing University of Posts and Telecommunications.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: yy Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. yy Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. yy Neither the name of Cisco, Inc, Beijing University of Posts and Telecommunications, nor the names of their contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Part 7: Fabasoft R&D Software Software GmbH & Co KG copyright Notice (BSD)

Copyright (c) Fabasoft R&D Software GmbH & Co KG, 2003oss@fabasoft.com

Author: Bernhard Penz

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: yy Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. yy Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. yy The name of Fabasoft R&D Software GmbH & Co KG or any of its subsidiaries, brand or product names may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Part 8: Apple Inc. copyright notice (BSD)

Copyright (c) 2007 Apple Inc.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. 3. Neither the name of Apple Inc. ("Apple") nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY APPLE AND ITS CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL APPLE OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Part 9: ScienceLogic, LLC copyright notice(BSD)

Copyright (c) 2009, ScienceLogic, LLC

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: yy Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. yy Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. yy Neither the name of ScienceLogic, LLC nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE

The MIT License

Some software components of this product incorporate source code covered under the MIT license as follows

MIT License 2.0

- Acewidget, bettermeans, jquery-ui, libxml, libxml2, Mesa3D-MesaLib,mwEmbed,OpenGL Samples Pack, Wide Studio, xorg-server, dropbear-2012.55, ncurses-5.7

Copyright (c) 2011, The Dojo Foundation

Copyright 2010, AUTHORS.txt (<http://jqueryui.com/about>)

Dual licensed under the MIT or GPL Version 2 licenses.

- <http://jquery.org/license>

- <http://docs.jquery.com/UI/Widget>

Copyright Daniel Veillard

Copyright Igor Zlatovic <igor@zlatkovic.com>

Copyright Aleksey Sarin

Copyright Gary Pennington <Gary.Pennington@uk.sun.com>

Copyright Alfred Mickautsch <alfred@mickautsch.de>

Copyright Bjorn Reese <bjorn.reese@systematic.dk>

Copyright Joel W. Reed

Copyright William Brack <wbrack@mmm.com.hk>

Copyright (c) 2007-2010 The Khronos Group Inc.

Copyright Atish Kumar Patra

Copyright (c) 2006 Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Mozilla Public License

Since we, at Hanwha Vision, used the Mozilla Firefox component without modifying the source code according to the MOZILLA Public license 1.1., we are not obliged to provide the source code of the corresponding component.

- Version 1.1

1. Definitions.

1.0.1. "Commercial Use" means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor" means each entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version" means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code" means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism" means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable" means Covered Code in any form other than Source Code.

1.6. "Initial Developer" means the individual or entity identified as the Initial Developer in the Source Code notice required by Exhibit A.

1.7. "Larger Work" means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

A. Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

B. Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code" means Source Code of computer software code which is described in the Source Code notice required by Exhibit A as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code" means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under Section 6.1. For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant. The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:

(a) under intellectual property rights (other than patent or trademark) licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and

(b) under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).

(c) the licenses granted in this Section 2.1(a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.

(d) Notwithstanding Section 2.1(b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant. Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

(a) under intellectual property rights (other than patent or trademark) licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and

(b) under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).

(c) the licenses granted in Sections 2.2(a) and 2.2(b) are effective on the date Contributor first makes Commercial Use of the Covered Code.

(d) Notwithstanding Section 2.2(b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License. The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section 2.2. The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section 6.1, and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section 3.5.

3.2. Availability of Source Code. Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications. You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

(a) Third Party Claims. If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs. If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the LEGAL file.

(c) Representations.

Contributor represents that, except as disclosed pursuant to Section 3.4(a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices. You must duplicate the notice in Exhibit A in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modifications(s) You may add your name as a Contributor to the notice described in Exhibit A. You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions. You may distribute Covered Code in Executable form only if the requirements of Section 3.1-3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license

for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works. You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in Section 3.4 and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in Exhibit A and to related Covered Code.

6. Versions of the License.

6.1. New Versions. Netscape Communications Corporation ("Netscape") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions. Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Netscape. No one other than Netscape has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works. If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in Exhibit A shall not of themselves be deemed to be modifications of this License.)

7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

8. TERMINATION.

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

(a) such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections 2.1 and/or 2.2 of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections 2.1(b) and 2.2(b) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU. 10. U.S. GOVERNMENT END USERS.

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. MISCELLANEOUS.

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which

provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. RESPONSIBILITY FOR CLAIMS.

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. MULTIPLE-LICENSED CODE.

Initial Developer may designate portions of the Covered Code as Multiple-Licensed. Multiple-Licensed means that the Initial Developer permits you to utilize portions of the Covered Code under Your choice of the MPL or the alternative licenses, if any, specified by the Initial Developer in the file described in Exhibit A.

EXHIBIT A -Mozilla Public License.

The contents of this file are subject to the Mozilla Public License Version 1.1 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.mozilla.org/MPL/Software> distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____. Portions created by _____ are Copyright (C) _____, All Rights Reserved.

Contributor(s): _____.

Alternatively, the contents of this file may be used under the terms of the _____ license (the [_____] License), in which case the provisions of [_____] License are applicable instead of those above. If you wish to allow use of your version of this file only under the terms of the [_____] License and not to allow others to use your version of this file under the MPL, indicate your decision by deleting the provisions above and replace them with the notice and other provisions required by the [_____] License. If you do not delete the provisions above, a recipient may use your version of this file under either the MPL or the [_____] License."

[NOTE: The text of this Exhibit A may differ slightly from the text of the notices in the Source Code files of the Original Code. You should use the text of this Exhibit A rather than the text found in the Original Code Source Code for Your Modifications

The Independent JPEG Group's JPEG Software

The software included in this product contains copyrighted software that is licensed under the JPEG license.

- JPEG license
- Code project . Generating Outline OpenGL, Libjpeg

This distribution contains the sixth public release of the Independent JPEG Group's free JPEG software. You are welcome to redistribute this software and to use it for any purpose, subject to the conditions under LEGAL ISSUES, below.

Serious users of this software (particularly those incorporating it into larger programs) should contact IJG at jpeg-info@uunet.uu.net to be added to our electronic mailing list. Mailing list members are notified of updates and have a chance to participate in technical discussions, etc.

This software is the work of Tom Lane, Philip Gladstone, Jim Boucher, Lee Crocker, Julian Minguijon, Luis Ortiz, George Phillips, Davide Rossi, Guido Vollbeding, Ge' Weijers, and other members of the Independent JPEG Group.

IJG is not affiliated with the official ISO JPEG standards committee.

LEGAL ISSUES

=====

In plain English:

1. We don't promise that this software works. (But if you find any bugs, please let us know!)
2. You can use this software for whatever you want. You don't have to pay us.
3. You may not pretend that you wrote this software. If you use it in a program, you must acknowledge somewhere in your documentation that you've used the IJG code.

In legalese:

The authors make NO WARRANTY or representation, either express or implied, with respect to this software, its quality, accuracy, merchantability, or fitness for a particular purpose. This software is provided "AS IS", and you, its user, assume the entire risk as to its quality and accuracy.

This software is copyright (C) 1991-1998, Thomas G. Lane. All Rights Reserved except as specified below.

Permission is hereby granted to use, copy, modify, and distribute this software (or portions thereof) for any purpose, without fee, subject to these conditions:

- (1) If any part of the source code for this software is distributed, then this README file must be included, with this copyright and no-warranty notice unaltered; and any additions, deletions, or changes to the original files must be clearly indicated in accompanying documentation.
- (2) If only executable code is distributed, then the accompanying documentation must state that "this software is based in part on the work of the Independent JPEG Group".
- (3) Permission for use of this software is granted only if the user accepts full responsibility for any undesirable consequences; the authors accept NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code, not just to the unmodified library. If you use our work, you ought to acknowledge us.

Permission is NOT granted for the use of any IJG author's name or company name in advertising or publicity relating to this software or products derived from it. This software may be referred to only as "the Independent JPEG Group's software".

We specifically permit and encourage the use of this software as the basis of commercial products, provided that all warranty or liability claims are assumed by the product vendor.

ansi2knr.c is included in this distribution by permission of L. Peter Deutsch, sole proprietor of its copyright holder, Aladdin Enterprises of Menlo Park, CA.

ansi2knr.c is NOT covered by the above copyright and conditions, but instead by the usual distribution terms of the Free Software Foundation; principally, that you must include source code if you redistribute it. (See the file ansi2knr.c for full details.) However, since ansi2knr. c is not needed as part of any program generated from the IJG code, this does not limit you more than the foregoing paragraphs do.

The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltconfig, ltmain. sh). Another support script, install-sh, is copyright by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

We are required to state that

"The Graphics Interchange Format(c) is the Copyright property of CompuServe Incorporated. GIF(sm) is a Service Mark property of CompuServe Incorporated."

T-Kernel License

- This Product uses the Source Code of T-Kernel under T-License granted by the T-Engine Forum(www.t-engine.org)

T-License [License Agreement for Source Code of T-Kernel]

established by T-Engine Forum
on January 23, 2004
revised on June 17, 2004
revised on December 21, 2006
revised on March 24, 2009

Article 1. Scope of License Agreement

1. This License Agreement sets forth copyrights and the terms and conditions of use applicable to the source code of T-Kernel distributed by T-Engine Forum and any derivative work created therefrom.

Article 2. Definition

1. "T-Kernel" means a real-time operating system controlled and distributed by T-Engine Forum on behalf of the copyright holder thereof.
2. "Source Code" means a source program, including related comments and documentations, for the T-Kernel and the Ported Source Code defined in Article 2.8 which is registered with T-Engine Forum.
3. "Hardware-dependent Part" means the part of the Source Code which depends on hardware and needs to be changed when the Source Code is ported and operated on the target hardware, and is designated and separated as such part.
4. "Compiler-dependent Part" means the part of the Source Code which depends on compiler and needs to be changed when the Source Code is ported and operated on the target hardware, and is designated and separated as such part.
5. "Header File" means the part of the Source Code which contains definitions necessary to develop application programs.
6. "T-Engine Hardware" means the hardware which is manufactured in accordance with the T-Engine Hardware specifications or the μ T-Engine Hardware specifications issued by T-Engine Forum, and registered with T-Engine Forum.
7. "Similar Hardware to T-Engine Hardware" means any hardware (including software which emulates hardware) other than that defined in Article 2.6 above, on which the T-Kernel can be operated.
8. "Ported Source Code" means a source program produced from the Source Code by modifying only its Hardwaredependent Part and/or Compiler-dependent Part to enable it to be operated on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware. The Ported Source Code which is registered with T-Engine Forum shall be included in the Source Code.
9. "Modified Source Code" means a source program modified from the Source Code for the purpose of improving its performance, increasing or decreasing its function, and the like. The Ported Source Code shall not be included in the Modified Source Code.
10. "Binary Code" means an executable code form which is created by compiling programs, which include all or part of the Source Code or the Modified Source Code.
11. "Derivative Work" means the Modified Source Code or the Binary Code.
12. "Embedded Product" means any product which operates with executable code form of the Source Code, the Modified Source Code or the Binary Code loaded on its hardware.
13. "End User" means a consumer who uses the Embedded Product.
14. "System Developer" means any person who develops the Embedded Product by itself or has a third party develop the same, and provides, whether with or without payment, the End User with the Embedded Product.
15. "Distributor of Modification" means any person who produces the Modified Source Code and, whether with or without payment, distributes the same to any third party.

16. "Patch for Modification" means a difference, program, system, or the like in order to create the Modified Source Code from the Source Code or the Binary Code thereof.

17. "Vicarious Execution of Patch Processing" means vicarious execution service to create the Modified Source Code applying the Patch for Modification to the Source Code or the Binary Code thereof.

18. "Source Code User" means a person who uses the Source Code.

19. "Distribution" means any of the following acts:

1. to transmit a work to a large number of specific persons through the Internet communication, broadcasting, and the like;
2. to transmit a work to the general public through the Internet communication, broadcasting, and the like automatically in response to a request from the public; and
3. to distribute a copy of a work to the general public or a large number of specific persons.

Article 3. Copyright

1. The copyrights of the Source Code shall be owned by Ken Sakamura.

Article 4. License of Source Code

1. As provided for in this Article, T-Engine Forum shall provide, and grant a license to use, the Source Code free of charge to any person who has taken the necessary procedure for registration as prescribed by T-Engine Forum and agreed to the T-License.
2. The Source Code shall be distributed exclusively by T-Engine Forum. Any person who obtains the Source Code under Article 4.1 above shall not make any re-Distribution of the Source Code.
3. In accordance with the license granted under Article 4.1 above, the Source Code User may perform the following acts:
 1. to copy and/or modify the Source Code provided by T-Engine Forum hereunder for its own research, development and the like.
 2. to run the Source Code provided by T-Engine Forum hereunder for its own research, development and the like.
 3. to run the Source Code modified in accordance with the provision of Article 4.3 (1) above for its own research, development and the like.
 4. to distribute the Binary Code created from the Source Code provided by T-Engine Forum hereunder or from the Source Code modified in accordance with the provision of Article 4.3 (1) above.
4. In accordance with the license granted under Article 4.1 above, the System Developer may perform the following acts:
 1. to perform any and all acts set forth in the Article 4.3 above.
 2. to develop and manufacture the Embedded Product containing the Binary Code, and, whether with or without payment, provide the End User with the same and make the Binary Code available to the End User on the Embedded Product.
5. The Source Code User and the System Developer shall be obligated to give a notice that the Source Code is used, in such a way as separately specified by T-Engine Forum, when they use the Source Code or the Binary Code, or make the Binary Code available for the End User on the Embedded Product.

Article 5. Distribution of Modified Source Code

1. Any of A- members of T-Engine Forum may become the Distributor of Modification by obtaining the approval of T-Engine Forum through the registration procedure as prescribed by the Forum provided that only the department of the A- member which has taken the registration procedure may distribute the Modified Source Code in such a way as provided for in this Article as long as it holds the Amembership.
2. The Distributor of Modification may create the Modified Source Code based on the Source Code provided by T-Engine Forum and the Patch for Modification to be applied to create such Modified Source Code from the Source Code.
3. The Distributor of Modification shall, prior to the distribution, inform T-Engine Forum of and register a name and description of the Modified Source Code in such a way as specified by T-Engine Forum.
4. The Distributor of Modification shall determine the name of the Modified Source Code subject to the rules separately established by T-Engine Forum and publish an appropriate notice as required by the rules on the Patch for Modification and the Modified Source Code.
5. The Distributor of Modification may distribute the Modified Source Code to a third party, whether with or without payment, provided that the Distributor of Modification shall take the necessary measures to prohibit the third party from making the re-Distribution of the Modified Source Code.
6. Developer with the Patch for Modification. Provided, however, that the Distributor of Modification shall be obligated to confirm that the System Developer is the Source Code User duly licensed under Article 4.1.
7. The Distributor of Modification may perform the Vicarious Execution of Patch Processing for the System Developer.
8. The System Developer shall not distribute the Modified Source Code in further modified form to any third party as a stand-alone software product.
9. The System Developer may, under the same obligation as imposed in Article 4.5, make the Embedded Product available for the End User through use of the Patch for Modification distributed by the Distributor of Modification or the Derivative Works obtained through the Vicarious Execution of Patch Processing.

Article 6. Distribution and Registration of the Ported Source Code

1. The Source Code User and the System Developer may, whether with or without charge, distribute to any third party only the following parts of the Ported

Source Code on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware:

1. The Hardware-dependent Part and/or Compiler-dependent Part; provided that the Source Code User and the System Developer shall inform T-Engine Forum of, and T-Engine Forum may publish, a method for distributing said Part(s) to third parties.
2. The Header File; provided that the Header File shall be distributed together with the Binary Code of the Ported Source Code.
2. Any member of T-Engine Forum may request T-Engine Forum to register and distribute, as an original source code for T-Kernel, the Ported Source Code on the T-Engine Hardware or the Similar Hardware to T-Engine Hardware.
3. Any member of T-Engine Forum who requests the distribution mentioned in the preceding paragraph shall accede to the following conditions:
 1. The member shall confirm that the object hardware is the T-Engine Hardware or the Similar Hardware to T-Engine Hardware.
 2. The member shall provide T-Engine Forum with a complete set of operational environment for the object hardware and T-Kernel free of charge when requesting the distribution.
 3. The member shall submit test results of the Ported Source Code to T-Engine Forum when requesting the distribution.
4. In the event that T-Engine Forum accepts the request mentioned in Article 6.2, T-Engine Forum shall register and distribute the Ported Source Code as the Source Code for T-Kernel. Provided, however, that the Ported Source Code may be treated in the same way as the Modified Source Code until the time of registration hereunder.
5. The provision set forth in Article 3 shall apply to the Ported Source Code registered in accordance with this Article.

Article 7. Use for Other Purpose

1. Any use of the Source Code, the Modified Source Code or the Ported Source Code other than those stipulated in Articles 4, 5 and 6 shall be subject to the prior approval of T-Engine Forum.

Article 8. Limited Warranty

1. T-Engine Forum and the copyright holder of the Source Code warrant that the Source Code does not infringe third party's copyrights. Provided, however, that T-Engine Forum and the copyright holder of the Source Code make no warranty as to the Hardware-dependent Part and/or Compiler- dependent Part set forth in Article 6.2 in the Ported Source Code by any third party.
2. Neither T-Engine Forum nor the copyright holder of the Source Code warrants that the Source Code will fit for any particular purpose of the Source Code User.
3. Neither T-Engine Forum nor the copyright holder of the Source Code warrants that the Source Code does not infringe any third party's industrial property rights. In no event shall T-Engine Forum and the copyright holder of the Source Code be liable for any dispute which may arise between the Source Code User and a third party in connection with the third party's industrial property rights.

Article 9. Indemnity

1. Neither T-Engine Forum nor the copyright holder of the Source Code shall be liable for any damages (including, but not limited to, damages resulting from loss of profit, business interruption, loss of business information or any other pecuniary damage) arising out of use or impossibility of use of the Source Code, even if T-Engine Forum and the copyright holder have been informed of the possibility of such damages.

Article 10. Breach of Agreement

1. In case that T-Engine Forum considers that this License Agreement is breached or that the popularization of T-Kernel is obstructed, T-Engine Forum shall take measures to correct such breach or such obstruction, take measures on the ground of copyright infringement, or take any other necessary measures against the breaching person or the obstructing person, regardless of whether or not the said person is a member of T-Engine Forum.
2. In case of breach of this License Agreement by a member of T-Engine Forum, T-Engine Forum may take appropriate measures against the member; for example, the member is disqualified from membership, depending on what kind of breach has been committed by it.
3. Any legal dispute which may arise in relation to any breach of this License Agreement shall be subject to the exclusive jurisdiction of the Tokyo District Court.

Article 11. Governing Law and Language

1. This License Agreement shall be governed by and interpreted under the laws of Japan.
2. This License Agreement is executed in both Japanese text and English text provided that the Japanese text shall govern the interpretation and performance of this License Agreement.

Apache License 2.0

Component	Name License	URL
mDNSResponder_bonjour	Apache License 2.0	http://www.apache.org/licenses/LICENSE-2.0

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.
"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.
"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License. "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution." "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

- Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
- Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a crossclaim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.
- Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
 - You must give any other recipients of the Work or Derivative Works a copy of this License; and
 - You must cause any modified files to carry prominent notices stating that You changed the files; and
 - You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
 - If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places:
 - within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or
 - within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

- Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
- Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
- Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NONINFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
- Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
- Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

BZip2 License

This program, "bzip2", the associated library "libbzip2", and all documentation, are copyright (C) 1996-2007 Julian R Seward. All rights reserved.

Component Name	License	URL
bzip2- 1.0.6	Bzip2	http://www.bzip.org/

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
3. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, jseward@bzip.org

bzip2/libbzip2 version 1.0.5 of 10 December 2007

University of Illinois / NCSA Open Source License

Copyright (c) 1999-2007, The Board of Trustees of the University of Illinois All Rights Reserved.

Component Name	License
iperf-2.0.5	University of Illinois / NCSA Open Source

Ipert performance test

Mark Gates

Ajay Tirumala

Jim Ferguson

Jon Dugan

Feng Qin

Kevin Gibbs

John Estabrook

National Laboratory for Applied Network Research

National Center for Supercomputing Applications

University of Illinois at Urbana-Champaign

<http://www.ncsa.uiuc.edu>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software (Ipert) and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimers.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimers in the documentation and/or other materials provided with the distribution.

Neither the names of the University of Illinois, NCSA, nor the names of its contributors may be used to endorse or promote products derived from this Software without specific prior written permission. THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE CONTRIBUTORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

PHP 3.01 License

The PHP License, version 3.01 Copyright (c) 1999 - 2010 The PHP Group. All rights reserved.

Component Name	License	URL
php-5.2.17	PHP 3.01	http://www.php.net/distributions

Redistribution and use in source and binary forms, with or without modification, is permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name "PHP" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact group@php.net.
4. Products derived from this software may not be called "PHP", nor may "PHP" appear in their name, without prior written permission from group@php.net. You may indicate that your software works in conjunction with PHP by saying "Foo for PHP" instead of calling it "PHP Foo" or "phpfoo".
5. The PHP Group may publish revised and/or new versions of the license from time to time. Each version will be given a distinguishing version number. Once covered code has been published under a particular version of the license, you may always continue to use it under the terms of that version. You may also choose to use such covered code under the terms of any subsequent version of the license published by the PHP Group. No one other than the PHP Group has the right to modify the terms applicable to covered code created under this License.
6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes PHP software, freely available from <http://www.php.net/software/>".

THIS SOFTWARE IS PROVIDED BY THE PHP DEVELOPMENT TEAM "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE PHP DEVELOPMENT TEAM OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This software consists of voluntary contributions made by many individuals on behalf of the PHP Group. The PHP Group can be contacted via Email at group@php.net.

For more information on the PHP Group and the PHP project, please see <http://www.php.net>. PHP includes the Zend Engine, freely available at <http://www.zend.com>.

zlib / libpng License

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Component Name	License	URL
zlib-1.2.8	zlib / libpng	http://zlib.net/

Copyright (C) 1995-2010 Jean-loup Gailly and Mark Adler

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler

jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <http://www.ietf.org/rfc/rfc1950.txt> (zlib format), [rfc1951.txt](http://www.ietf.org/rfc/rfc1951.txt) (deflate format) and [rfc1952.txt](http://www.ietf.org/rfc/rfc1952.txt) (gzip format).



Hanwha Vision 在产品制造的各个环节都十分关注环境，并且采取措施以保证向客户提供更加环保的产品。
Eco 标志表明 Hanwha Vision 致力于生产环保型产品，同时也表示该产品符合欧盟 RoHS 标准。

