



网络摄像机 用户手册

SNV-6012M



网络摄像机

用户手册

版权

©2017 Hanuwa Techwin 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 Techwin 尽力验证本文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 Techwin 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，以妥善保管个人信息并防止信息泄露造成的损害。
请注意，由于没有妥善保管密码而造成安全或其他方面的问题，由用户自行承担。

概述

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. 本产品专门由所列出的标有“Class 2”的电源装置供电, 并且额定交流电压为 24 伏 (50/60 赫兹), 最小电流为 0.16 A; 或者额定直流电压为 12 伏, 最小电流为 0.16 A。



概述

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。

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。

本产品提供的 CVBS 输出端子是为了便于安装，建议不要用于监视目的。
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 Techwin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 Techwin一直在为改善此项而努力。

概述

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。

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。

概述

3

- 3 重要的安全说明
- 9 产品特色
- 10 推荐 PC 技术规格
- 11 建议的 Micro SD/SDHC/SDXC 存储卡规格
- 11 NAS 建议规格
- 12 附带提供的物品
- 13 简图

安装与连接

15

- 15 安装
- 18 插入/取出 Micro SD 存储卡
- 19 存储卡信息（未包含）
- 20 与其他设备连接

网络连接和设置

22

- 22 将摄像头与局域网直接连接
- 23 将摄像机直接连接至基于 DHCP 的 xDSL/有线电视网调制解调器
- 24 直接将摄像机连接到 PPPoE 调制解调器
- 25 将摄像头与使用 PPPoE/Cable 调制解调器的宽带路由器连接
- 26 在 IP Installer 中使用的按钮
- 27 静态 IP 设置
- 31 动态 IP 设置
- 32 路由器端口设置
- 34 从共享的本地 PC 连接到摄像机
- 34 从远程 PC 通过互联网连接到摄像机

概述

WEB 查看器

35

- 35 连接到摄像机
- 37 密码设置
- 37 登录
- 38 安装 WebViewer 插件
- 40 使用现场屏幕
- 43 播放录制的视频

设置屏幕

50

- 50 设置
- 50 基础设置
- 61 视频设置
- 73 网络设置
- 82 事件设置
- 87 NAS（网络连接存储器）指南
- 101 系统设置
- 107 查看配置文件信息

附录

108

- 108 规格
- 113 产品视图
- 114 故障排除
- 116 Open Source Announcement

产品特点

- **M12 标准**

对摄像机电缆使用 M12 插头，以支持抗振/防水（IP66）。

- **防尘/防水 (IP66)**

防尘和防水设计可让您在室外安装产品或产品受雨淋时，不必担心。

- **全高清视频质量**

- **多流**

本网络摄像机可以同时使用不同的 CODEC、采用不同的分辨率和质量来显示视频。

- **基于 Web 浏览器的监视**

使用互联网 Web 浏览器在本地网络环境中显示图像。

- **防拆检测**

在视频监视上检测拆离尝试。

- **移动探测**

从摄像机的视频输入检测移动。

- **智能视频分析**

分析视频以从摄像机的视频输入检测指定条件的逻辑事件。

- **面部探测**

从摄像机的视频输入探测面部。

- **自动检测断开的网络**

检测网络断开连接，检测到便触发事件。

- **符合 ONVIF**

本产品支持 ONVIF Profile-S。

有关详细信息，请参阅 www.onvif.org。



Driving network video through global standardization

概述

推荐 PC 技术规格

- CPU：英特尔酷睿 2 双核 2.4 GHz 或更高（使用 1920x1080@30 fps）
英特尔酷睿 i7 2.8 GHz 或更高（使用 1920x1080@60 fps）
 - Web 插件针对 SSE 4.1 指令集进行了优化。
- 分辨率：1280X1024 像素或更高（32 位颜色）
- RAM：2GB 或更大
- 支持的操作系统：Windows XP / VISTA / 7 / 8 / 8.1, MAC OS X 10.7
- 支持的浏览器：Microsoft Internet Explorer (版本 11 ~ 8)
Mozilla Firefox (版本 19 ~ 9) ※ 仅限 Windows
Google Chrome (版本 25 ~ 15) ※ 仅限 Windows
Apple Safari (版本 6.0.2 (仅限 Mac OS X 10.8、10.7)、5.1.7) ※ 仅限 Mac OS X
 - 只在桌面模式下支持 Windows 8。
 - 既不支持测试版，也不支持开发者版，仅支持在公司官方网站发布的正式版本。
 - 为了实现 IPv6 连接，建议使用 Window 7 或更高版本的操作系统。
 - 对于 Mac OS X，只支持 Safari 浏览器。
- 显存：256MB 或更大
 -  ■ 如果显卡的驱动程序未正确安装或不是最新版本，则视频可能无法正确播放。
 - 对于至少涉及 2 个监视器的多监视系统，播放性能可能会下降，具体视系统而定。

建议的 MICRO SD/SDHC/SDXC 存储卡规格

- 4GB ~ 64GB
- 对您的摄像头，我们建议您使用以下厂商制造的存储卡：
Micro SD/SDHC/SDXC 存储卡：Sandisk, Transcend
- 如果帧率低于 30 fps，建议使用 Class 6 或更高速度的规格存储卡。
- 如果帧率超过 31 fps，建议使用 Class 10 UHS 或更高速度的规格存储卡。

NAS 建议规格

- 建议容量：200GB 或更高
- 同步访问：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
Netgear 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。



- 使用 Netgear 公司的 NAS 设备时，不要分配要使用的容量。
- 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。

概述

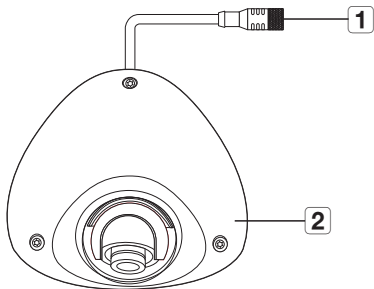
附带提供的物品

请检查产品包装内是否已包括摄像机和所有附件。

外观	项目名称	数量	说明
	摄像机	1	
	说明手册, Installer 软件 CD	1	
	用户手册	1	
	保修卡 (可选)	1	
	用于测试显示器的电缆	1	用于测试摄像机至便携式显示设备的连接
	L 型扳手	1	用于卸下/固定圆顶盖
	M4 自攻螺钉	3	用于将摄像机固定在墙壁或天花板上。
	M12-RJ45 转换线	1	使用它将摄像机的 M12 接头连接到常规网络设备。

简图

外观



项目	说明
1 M12 母插头电缆	连接到 M12 公插头电缆，以进行供电和网络连接。
2 圆顶盖	用于保护镜头和主设备的护盖。



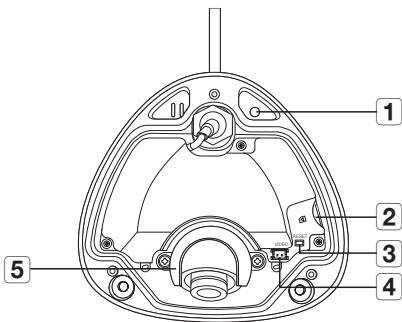
- 用擦镜布或蘸有乙醇的布块轻轻擦拭透镜去除表面脏污。



- 确保在取下护盖时，您可以在护盖内找到硅胶干燥剂。否则，产品内部可能会受潮。
- 如果您发现产品因为硅胶干燥剂变质而受潮，请通过服务中心与我们联系，以获得技术辅助。

概述

内部



项目	说明
1 固定孔	用于将摄像机固定到天花板上的孔。
2 Micro SD 存储卡槽	用于安装 Micro SD 存储卡。
3 重置按钮	将摄像机设置重置为默认值。按住约 5 秒钟可重启系统。 ■ 如果复位摄像机，则会调整网络设置，以便可以启用 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。
4 视频输出端口	模拟视频输出端口。（供安装使用）
5 镜头盖	用于保护和固定镜头。

安装与连接

安装

安装前注意事项

安装之前，请确保阅读下列说明：

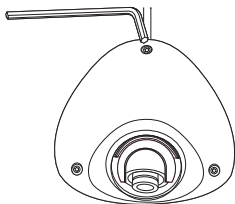
- 安装到天花板上时，所需的位置必须至少能够支撑 5 倍的摄像机重量。
- 破损或脱皮电缆可能会损坏产品或引起火灾。
- 为安全起见，让其他人远离安装地点。将个人所有物放在安装点一侧，以防万一。
- 该摄像机符合 IP66 规范，防水产品，但如果未使用 M12 插头和电缆，则插孔将不能提供防水功能。

安装该产品时，建议使用符合 M12 规范的外部电缆。

拆解

通过使用提供的 L 型扳手逆时针旋转松开 3 颗螺钉，并分开圆顶盖。

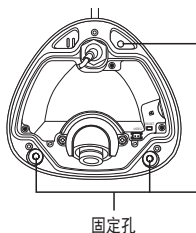
- 请注意，不需要完全松开螺钉。



安装与连接

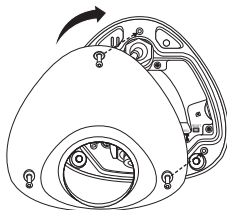
将摄像机安装在天花板上或墙壁上

1. 选择要安装摄像机的位置。
2. 将提供的螺钉插入到摄像机孔中，然后顺时针转动。



3. 关闭圆顶盖并用 L 型板手顺时针转动。

- !** 如果护盖无法牢牢固定，则可能会发生防水问题。(IP66)

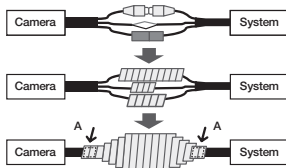


室外安装

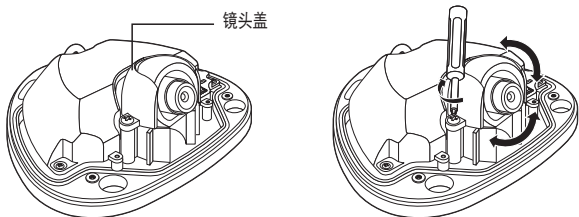
因为如果在建筑物外安装时未使用 M12 插头和 M12 电缆，外部连接的电缆间隙有可能会漏水，因此需要使用丁基橡胶防水胶带进行防水，如下图所示。

1. 连接电源、I/O、BNC 和 LAN 电缆。
2. 用防水（丁基橡胶）带包裹住黑色电缆套管（区域 A）和电缆连接区域，确保一半以上的丁基橡胶带重叠。

- !** 如未对电缆套管进行适当的防水操作，它可能直接导致漏水。确保使用橡胶带保护电缆。
- 防水丁基橡胶带由丁基橡胶制成，可拉伸为正常长度的 2 倍。



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。

然后，将摄像机向左或向右旋转称为“平移”，而倾斜一定的角度称为“倾斜”。对于平移，顺时针限定为 10° 度，逆时针限定为 10° 度，总共活动度为 20° 度；超过此限制会被阻滞器停止。

- 调整平移角度，以使摄像机稳定在合适的水平位置。可以调整平移的角度是一个方向最多 10° ，另一个方向 10° ，共 20° 。
- 调整倾斜角度，以使摄像机稳定在合适的垂直位置。可以在 0° 到 90° 之间调整倾斜。

■ 调整方法

3. 逆时针转动镜头盖任一端上的螺钉，以松开这些螺钉。

● 墙上安装的情况

- ① 将摄像机安装在墙壁上之后，调整平移角度，以使摄像机正对倾斜时的方向。
- ② 然后，调整倾斜角度，以使摄像机正对监视方向。

● 天花板安装的情况

- ① 将摄像机安装在天花板上之后，根据指示调整平移角度。应调整平移角度，免得视频颠倒显示在监视器上。
- ② 然后，调整倾斜角度，以使摄像机正对监视方向。

2. 完成后，顺时针转动螺钉以将镜头固定在某个倾斜角度。



- 为了使旋转调整更平顺，请将倾斜位置设置在 $60^{\circ} \sim 80^{\circ}$ 之间。

安装与连接

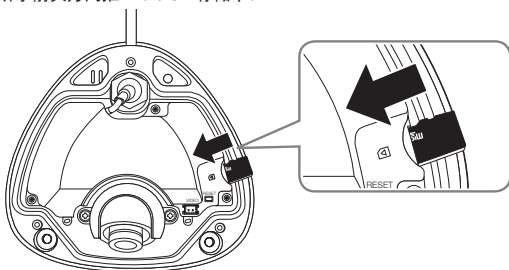
插入/取出 MICRO SD 存储卡



- 请先从摄像机拔下电源线，再插入 Micro SD 存储卡。
- 请勿在 Micro SD 存储卡倒放时用力插入。可能会损坏 Micro SD 存储卡槽。

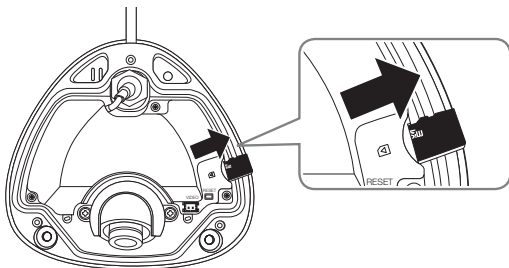
插入 Micro SD 存储卡

请按图中所示箭头方向推 Micro SD 存储卡。



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。





- 太用力按 Micro SD 存储卡可能会导致存储卡从卡槽中松脱后猛然弹出。
- 如需抽出微型 SD 存储卡，请关闭电源，或将设备的 <存储器> 设置为 <关>，然后按下 [应用 (应用)] 按钮。(第 83 页)
- 如果关闭摄像机或取出 Micro SD 内存卡，并且其中包含来自产品的数据，则数据可能丢失或受损。

存储卡信息（未包含）

什么是存储卡？

存储卡是一种外部数据储存设备，它的开发为使用数字设备进行录制和共享音频、视频和文本数据提供了崭新的方式。

选择一款适合您的存储卡

本摄像机支持 Micro SD/SDHC/SDXC 存储卡。

根据存储卡的型号和制作材料不同，您可能会遇到兼容性的问题。

对您的摄像头，我们建议您使用以下厂商制造的存储卡：

Micro SD/SDHC/SDXC 存储卡：Sandisk, Transcend

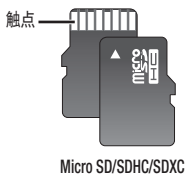
建立将 4GB ~ 64GB 的存储卡与本摄像机配合使用。

回放性能可能受存储卡速度的影响，因此，请使用高速存储卡。

如果帧率低于 30 fps，建议使用 Class 6 或更高速度的规格存储卡。

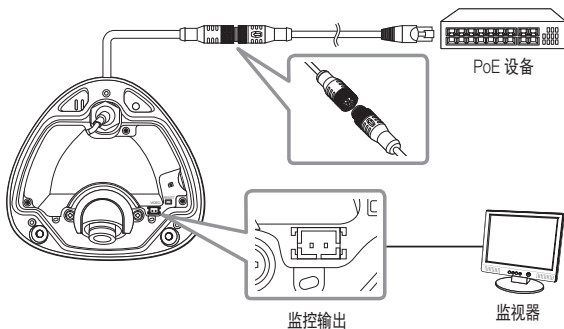
如果帧率超过 31 fps，建议使用 Class 10 UHS 或更高速度的规格存储卡。

记忆卡组件



安装与连接

与其他设备连接



- 本产品提供的 CVBS 输出端子是为了便于安装，建议不要用于监视目的。

连接插头电缆

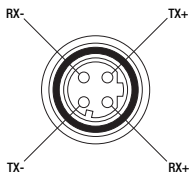
将 M12 公插头插入摄像机 M12 母插头的孔中。



- 该摄像机使用 D 型母插头。
- 支持 PoE（以太网供电）。
- 建议使用屏蔽式网络插头。

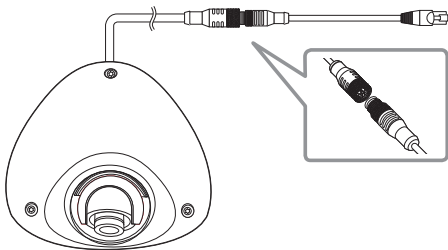


- 将该摄像机连接到屏蔽式网络电缆（STP）。
- 请使用符合 M12 规范的 4 针 D 型公插头外部电缆。
- 检查 PoE 设备是否正确接地。



使用提供的 M12-RJ45 转换线进行连接

将转换线的 M12 外插头连接到摄像机的 M12 内接头的凹槽。



供电和联网

将摄像机连接到 PoE 设备或将为摄像机提供的转换线的 M12-RJ45 接头连接到 PoE 设备。



- 连接方法可能会因用户的安装环境而有所不同。
- 连接到支持 PoE（以太网供电）的路由器 PoE 插头。
- 使用符合 IEEE802.3af 协议的 PoE（以太网供电）。
只能使用通过数据引脚对 1、2、3、6 供电的 A 型 PoE 设备。
- 即使使用提供的 M12-RJ45 转换线，您也只能使用 Mode A 类型的 PoE 设备，这种设备可以给数据对引脚 1、2、3、6 供电。

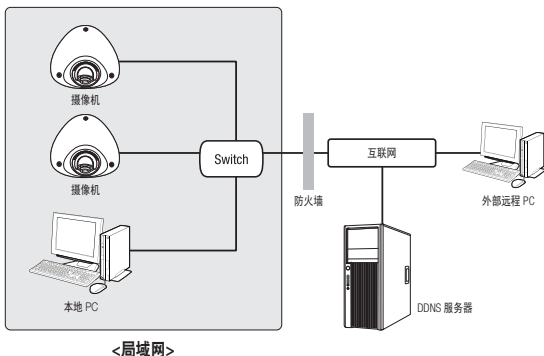
网络连接和设置

可根据您的网络配置来设置网络的设定。

将摄像头与局域网直接连接

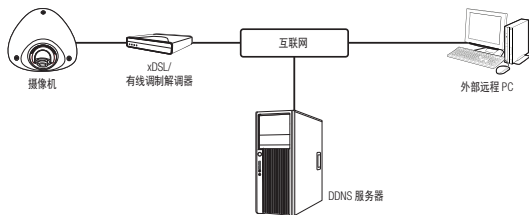
连接局域网内的本地 PC 和摄像头

1. 启动本地 PC 上的网络浏览器。
2. 在浏览器的地址栏中输入 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头。
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。
- 根据出厂默认值，会自动从 DHCP 服务器分配 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 27 页）

将摄像机直接连接至基于 DHCP 的 XDSL/有线电视网调制解调器



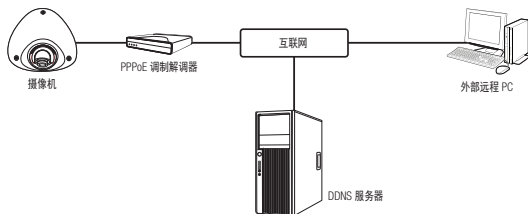
1. 直接将用户 PC 与网络摄像机连接。
2. 运行 IP Installer 并更改摄像机的 IP 地址，以便可以使用桌面上的 Web 浏览器连接至互联网。
3. 使用互联网浏览器连接至 Web Viewer。
4. 移至 [Setup] 页面。
5. 移至 [Network] – [DDNS] 并配置 DDNS 设置。
6. 移至 [Basic] – [IP & 端口]，并将网络类型设置为 [DHCP]。
7. 将摄像机（已从您的 PC 上拔下）直接连接至调制解调器。
8. 重新启动摄像机。



- 有关注册 DDNS 设置，请参阅“注册 DDNS”。（第 74 页）
- 有关配置 DDNS 设置，请参阅“DDNS”。（第 73 页）
- 有关设置网络类型，请参阅“IP & 端口”。（第 59 页）

网络连接和设置

直接将摄像机连接到 PPPOE 调制解调器



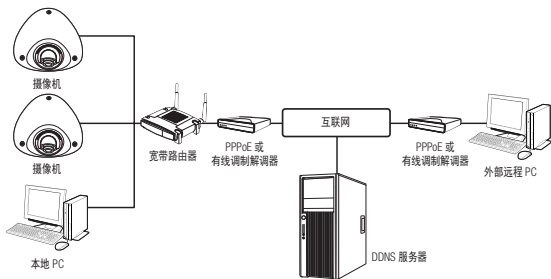
1. 直接将用户 PC 与网络摄像机连接。
2. 运行 IP Installer 并更改摄像机的 IP 地址，以便可以使用桌面上的 Web 浏览器连接至互联网。
3. 使用互联网浏览器连接至 Web Viewer。
4. 移至 [Setup] 页面。
5. 移至 [Network] – [DDNS] 并配置 DDNS 设置。
6. 转到 [Basic] – [IP & 端口] 设置页面，将网络类型设置为 [PPPoE]，然后输入 ID 和密码。
7. 将摄像机（已从您的 PC 上拔下）直接连接至调制解调器。
8. 重新启动摄像机。



- 有关注册 DDNS 设置，请参阅“注册 DDNS”。（第 74 页）
- 有关配置 DDNS 设置，请参阅“DDNS”。（第 73 页）
- 有关设置网络类型，请参阅“IP & 端口”。（第 59 页）

将摄像头与使用 PPPOE/CABLE 调制解调器的宽带路由器连接

适用于小型网络环境，如家庭、SOHO 以及普通的商店。



配置连接到宽带路由器

在配置连接到宽带路由器的本地 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) 若宽带路由器的地址 (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) 若宽带路由器的地址 (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) 若宽带路由器的地址 (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

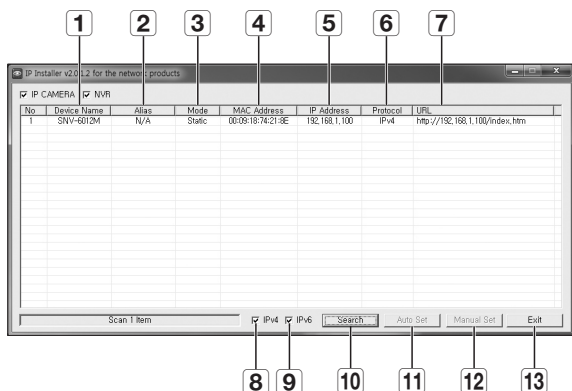


■ 关于宽带路由器的地址，请参见产品文档。

■ 如需宽带路由器的正向端口的更多信息，请参阅“路由器端口设置”。(第 32 页)

网络连接和设置

在 IP INSTALLER 中使用的按钮



项目	说明
1 Device Name	已连接摄像机的型号名称。 单击此列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	对当前网络连接状态显示 <Static>、<Dynamic> 和 <PPPoE>。
4 MAC(Ethernet) Address	已连接摄像机的以太网地址。 单击此列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”。

项目	说明
7 URL	DDNS URL 地址可以从外部互联网访问。 但是, 如果 DDNS 注册失败, 此按钮将被摄像机的 <IP Address> 代替。
8 IPv4	扫描使用 IPv4 设置的摄像机。
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 Techwin 网站下载最新版本。

静态 IP 设置

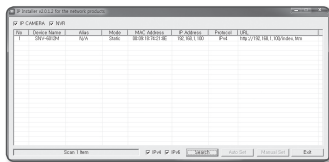
手动网络设置

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。

- 从搜索列表中选一个摄像机。
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> 显示在预设值中。



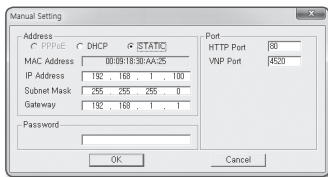
网络连接和设置

3. 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。



如果不使用宽带路由器

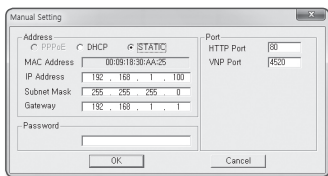
若要设置 <IP Address>、<子网掩码> 和 <Gateway>，请联系网络管理员。

4. 在 <Port> 窗格中，提供必需的信息。

- HTTP Port：用于使用互联网浏览器访问摄像机，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。



- 出于安全考虑的原因，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 56 页）

6. 单击 [OK]。

将完成手动网络设置。

如果使用宽带路由器

- IP Address：输入宽带路由器提供的 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：宽带路由器的 <子网掩码> 将是摄像机的 <子网掩码>。
- Gateway：宽带路由器的 <本地 IP 地址> 将是摄像机的 <Gateway>。



- 设置可能因连接的宽带路由器型号而异。
有关详细信息，请参阅适用路由器的用户手册。
- 如需宽带路由器的正向端口的更多信息，请参阅“路由器端口设置”。(第 32 页)

如果宽带路由器连接了多个摄像机

彼此清楚地配置 IP 相关设置和端口相关设置。

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，您必须在互联网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

网络连接和设置

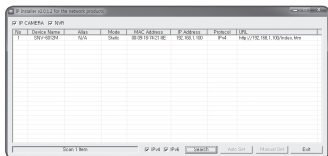
自动网络设置

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。



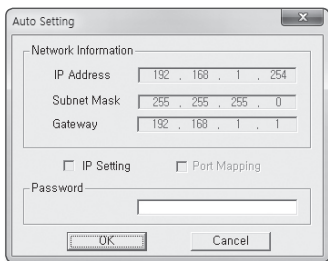
- 对于以 IPv6 设置为基础的摄像机，这些按钮将呈灰色，因为摄像机不支持此功能。

- 从搜索列表中选择一个摄像机。
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 [Auto Set]。
Auto Setting 对话框将会出现。
将自动设置 <IP Address>、<Subnet Mask> 和 <Gateway>。
- 输入密码。
输入用来访问摄像机的“admin”帐户的密码。



- 出于安全考虑的原因，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 56 页)

- 单击 [OK]。
将完成自动网络设置。



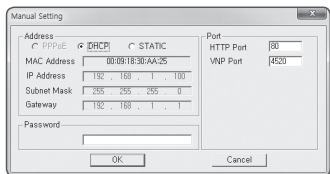
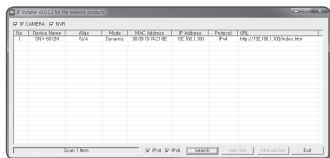
动态 IP 设置

动态 IP 环境设置

- 动态 IP 环境示例
 - 如果连接了摄像机的宽带路由器由 DHCP 服务器分配了 IP 地址
 - 如果使用 DHCP 协议将摄像机直接连接至调制解调器
 - 如果 IP 由内部 DHCP 服务器通过 LAN 分配

检查动态 IP

1. 在用户的本地计算机上运行 IP Installer。
分配了 <Dynamic IP> 地址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>。



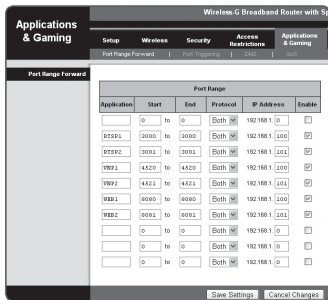
网络连接和设置

路由器端口设置

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

手动端口设置

1. 从宽带路由器的 Setup 菜单中，选择 <Applications & Gaming> - <Port Range Forward>。
对于第三方宽带路由器端口范围前移设置，请参阅该宽带路由器的用户手册。
2. 对连接到宽带路由器的每个摄像机选择 <TCP> 和 <UDP Port>。
宽带路由器的每个端口号都应该与在摄像机的 Web Viewer 菜单的 <Setup> - <Basic> - <IP & 端口> 中指定的端口号相符。
3. 完成后，单击 [Save Settings]。
将保存设置。

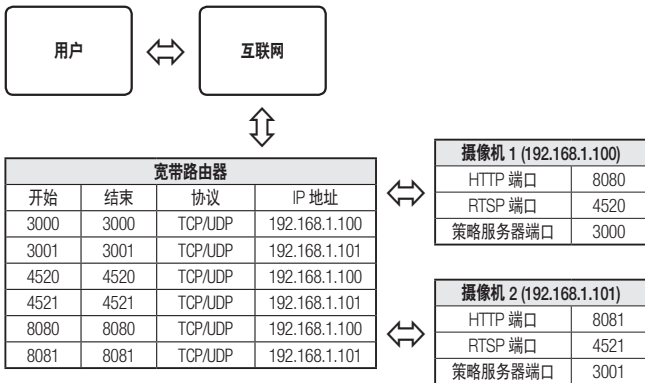


- 以上样本说明基于 CISCO 的宽带路由器。
- 设置可能因连接的宽带路由器型号而异。
有关详细信息，请参阅适用路由器的用户手册。

设置多个网络摄像机的端口范围前移

- 您可通过配置网页在宽带路由器设备上设置 正向端口的规则。
- 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。在连接网络摄像机后，在 “Setup → Network → DDNS” 菜单中将 <Samsung DDNS> 的 <Quick connect> 设置为 <开>。

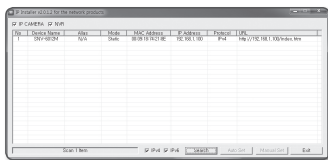
网络连接和设置

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。
互联网浏览器将启动，并连接到摄像机。



- 您也可以在互联网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

由于不允许在不属于宽带路由器网络群集的远程计算机上使用 IP Installer，所以用户需通过摄像机的 DDNS URL 在宽带路由器网络内访问摄像机。

1. 您应该设置宽带路由器端口范围前移，然后才能访问宽带路由器网络中的摄像机。
2. 从远程 PC 启动互联网浏览器，并在地址栏中键入摄像机的 DDNS URL 地址，或宽带路由器的 IP 地址。
例) <http://www.samsungipolis.com/> 产品 ID



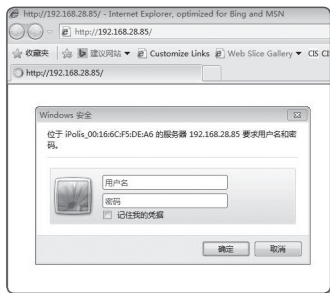
- 有关注册 DDNS 设置，请参阅“注册 DDNS”。(第 74 页)

web 查看器

连接到摄像机

通常，您应该：

1. 启动互联网浏览器。
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. 启动互联网浏览器。
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. 启动互联网浏览器。
2. 在地址栏中键入摄像机的 DDNS URL。
例) URL 地址 : http://www.samsungipolis.com/产品 ID
- 将会出现登录对话框。

! ■ 在只有 LAN 的环境中禁用网络连接。

web 查看器

通过 UPnP 连接

1. 运行支持 UPnP 协议的客户端或操作系统。
2. 单击要搜索的摄像机名称。
 - 在 Windows 操作系统中，从网络菜单中单击要搜索的摄像机名称。
 - 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. 单击要搜索的摄像机名称。
 - 在 Mac 操作系统中，从 Safari 的 Bonjour 选项卡单击要搜索的摄像机名称。
 - 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、xDSL 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 www.samsungipolis.com 并先注册您的设备，然后将 Web Viewer 的 <Network> - <DDNS> 设置为 <Samsung DDNS>，同时提供用于 DDNS 注册的 <产品 ID>。

密码设置

首次访问产品时，必须先注册登录密码。
出现“密码更改”窗口时，输入新密码。

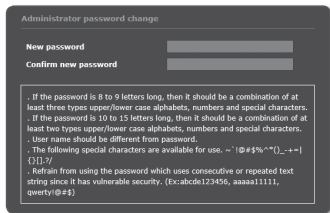


- 对于 8 到 9 位的新密码，必须至少使用下列 3 种类型：大写字母/小写字母、数字和特殊字符。对于 10 到 15 位的密码，必须至少使用上述两种类型。

- 允许使用的特殊字符为：

~!@#\$%^&*()-+=|{}[]?/

- 为了获得较高的安全性，建议您不要重复使用相同的字符作为密码，也不要使用连续的键盘输入作为密码。
- 如果您丢失了密码，可按住[RESET]按钮初始化该产品。因此请使用记事簿写下或记住您的密码以防丢失。



登录

每当访问摄像机时，登录窗口都会出现。
输入用户 ID 和密码以访问摄像机。

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



- 访问摄像机 Web 查看器时，要特别注意是否安全，检查一下图像数据是否加密。



- 如果您在完成输入之后选中“记住我的密码 (R)”选项，则从下次起将自动登录，而不会提示输入登录信息。
- 如果屏幕大小是 100%，则您可以体验最佳视频质量。降低该比率可能会切掉边框上的图像。

web 查看器

安装 WEBVIEWER 插件

如果首次连接到摄像机，您将会看到安装消息。然后，安装所需的 WebViewer 插件以访问摄像机并在摄像机内实时控制视频。

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。

Network Camera Webviewer Plugin Installation/Update.

[Click Here](#)



- 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”。

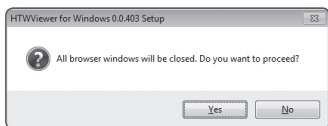
2. 在消息窗口中单击 **[Run]**。



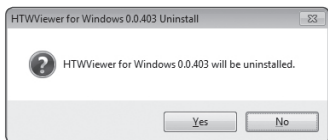
3. 当通知窗口指示将关闭所有浏览器窗口时，单击 **[Yes]**。



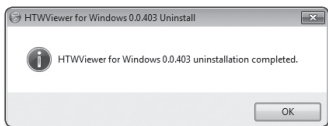
- 如果尚未安装任何 Web 浏览器插件，将跳过步骤 4 和 5。



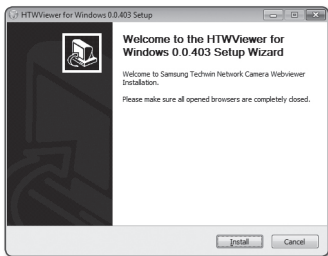
4. 如果已安装了旧版本的 Web 浏览器插件，屏幕会显示一个通知窗口以指示旧版本将被删除。在该通知窗口中单击 **[Yes]**。



5. 单击 [OK]。
旧版本的 Web 浏览器插件即被删除。



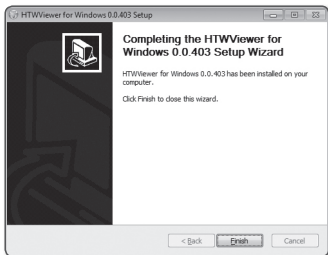
6. 单击 [Install], 开始安装 Web 浏览器插件。



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_activeplugin_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。



web 查看器

使用现场屏幕



项目	说明
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 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。

项目	说明
7 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。
8 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。
9 全屏	将当前视频切换至显示器的最大大小。
10 捕捉	将快照保存为 .jpg 格式的图像文件。
11 手动录制	用户可以将他们的视频保存在微型 SD 存储卡中，也可以独自保存在 NAS 中。 ■ 要手动拍摄视频，请首先更改录制设置。请参阅“存储器”部分，了解如何设置录制（第 83 页）。
12 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。

web 查看器

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。
使用 Internet Explorer 时，捕捉到的视频将保存在“我的电脑/我的文档/图片”中。
对于 Mac OS，它保存在“~/Pictures”或“/Users/{用户帐户}/Pictures/”中。



- 如果您在 Windows 7 计算机上使用 IE8 时发生视频中断，请从“工具 - Internet 选项 - 安全”中取消选择“启用保护模式”。
- 如果 Windows 7 或 8 中的 IE 浏览器没有捕捉该屏幕，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 ()]。



- 插入 SD 卡后，转到 <Event> - <存储器> 并通过选择 <开> 打开 SD 卡或者通过在连接 NAS 之后选择 <开> 打开 NAS。之后，您便可以使用手动录制功能。

适合全屏

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



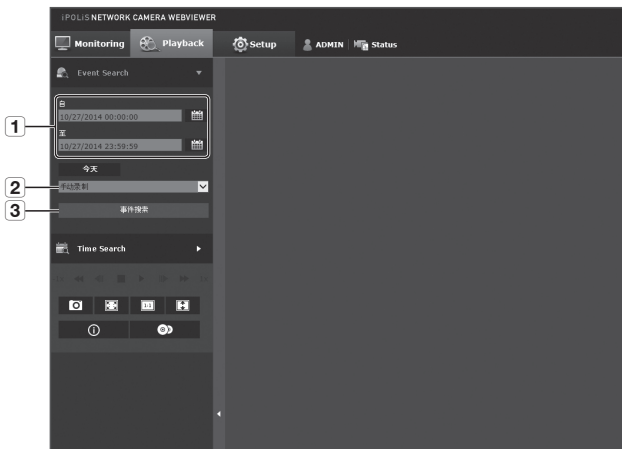
- 对于 Internet Explorer 和 Google Chrome 浏览器，您可以切换至全屏幕。

播放录制的视频



- 在可以播放视频之前，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 83 页）

事件搜索屏幕的名称及其功能



项目	说明
1 搜索范围设置	为 Micro SD 存储卡或 NAS 中保存的数据设置搜索日期和时间范围。
2 搜索事件设置	设置想要搜索的事件类型。
3 事件搜索	运行事件搜索。

web 查看器

在按事件搜索后播放内容

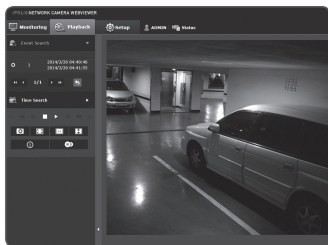
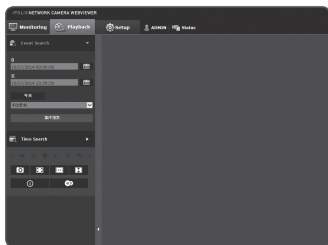
1. 单击 [Playback (🎬)] 按钮。
2. 指定搜索的开始和结束时间。
3. 选择指定时间段内搜索的事件类型。
4. 单击 [事件搜索] 按钮。
搜索结果将显示在列表中。



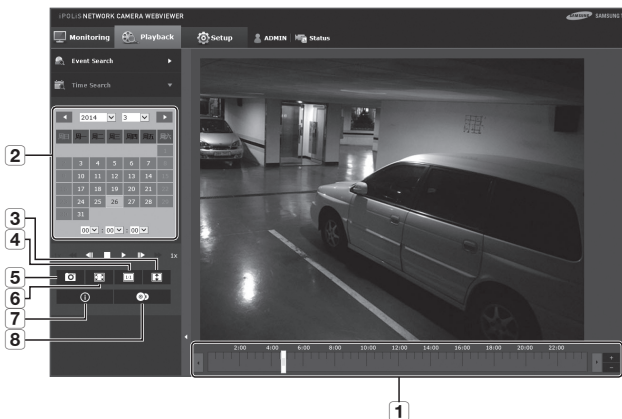
- 如果在搜索时间段内录制了超过 800 个事件，则搜索将限制为录制第 800 个事件的日期。

例如，如果搜索时间段在一个月内的第 10 天和第 15 天之间，并且在第 10 天到第 11 天录制了超过 800 个事件，则搜索将限制为最多第 11 天（共 800 个事件），将找不到之后（从第 12 天开始）的事件。

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



项目	说明
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 屏幕优化	转换摄像机图像，使它适合 Web 浏览器窗口。
4 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。
5 捕捉	当前图像保存为 .jpg 图像文件。
6 全屏幕	转换当前图像，使它覆盖显示器的最大尺寸。

web 查看器

项目	说明
7 视频信息	屏幕上将显示回放视频的时间数据。
8 备份	设置对保存在Micro SD内存卡或 NAS中的视频创建备份。 ■ 最多可设置为 5 分钟。

在按时间搜索后播放

1. 单击 [Time Search (🔍)]。
2. 在日历中单击所需日期。
将会播放指定日期上的视频。
3. 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。
4. 播放视频时，将会显示当前视频的录制时间。
5. 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。
◀◀：选择该按钮可后移 1 秒。
 - 控制播放速度
如果选择 ▶▶，按钮将切换为 x1, x2, x4, x8，并且播放速度相应提高。
如果选择 ◀◀，播放速度降至 -x1, -x2, -x4, -x8，并且播放速度逐渐放慢。随后，快速播放速度恢复为正常速度，反向播放速度增加。
 - 控制播放方向
如果您看到显示 ▶▶ 按钮和播放速度，将会向前播放视频；而如果您看到显示 ◀◀ 按钮和播放速度，将会向后播放视频。
 - 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。

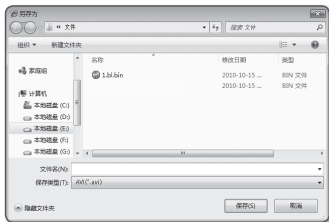


6. 先将 [时间滑块 (■)] 移至视频的所需时间点再播放。

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

1. 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。
2. 单击 [📁] 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。

web 查看器

播放 AVI 文件

(1) Micro SD 存储卡

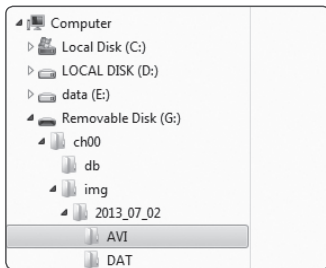
1. 从摄像机取出 Micro SD 存储卡。

! 在取出 Micro SD 存储卡前，将“Setup → Event → 存储器”菜单中的 <启用> 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。

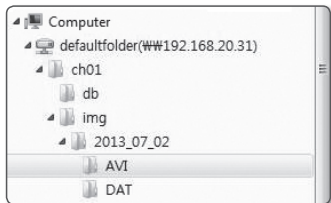
- ✎ 文件名以“001_YYYYMMDD_HHMMSS.avi”的格式开始，其中文件编号逐一递增。
YYYYMMDD_HHMMSS 表示数据保存的开始时间。
- “001_YYYYMMDD_HHMMSS.smi”文件是一个字幕文件，如果它与关联 AVI 文件位于相同目录，就可以查看它。
 - 每个 AVI 文件的最大录制时间是 5 分钟。
 - 如果受损，Micro SD 存储卡中的数据将无法在 Web Viewer 的 [Playback] 中播放。



Name	Date modified	Type	Size
001_20130702_140726	8/13/2013 10:23 AM	AVI File	435,786 KB
001_20130702_140726.smi	8/13/2013 10:23 AM	SMI File	135 KB
002_20130702_142759	8/13/2013 10:31 AM	AVI File	371,789 KB
002_20130702_142759.smi	8/13/2013 10:31 AM	SMI File	162 KB

(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，如果它与关联 AVI 文件位于相同目录，就可以查看它。
- 每个 AVI 文件的最大录制时间是 30 分钟。
- 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。

Name	Date modified	Type	Size
001_20130702_160726	8/13/2013 10:23 AM	AVI File	405,795 KB
001_20130702_160726.smi	8/13/2013 10:23 AM	SMI File	133 KB
002_20130702_162759	8/13/2013 10:31 AM	AVI File	370,784 KB
002_20130702_162759.smi	8/13/2013 10:31 AM	SMI File	162 KB

设置屏幕

设置

您可以在网络上设置有关摄像机、视频、网络、事件以及系统方面的基本信息。

1. 在现场屏幕中，单击 [Setup ()]。
2. 设置屏幕将会出现。

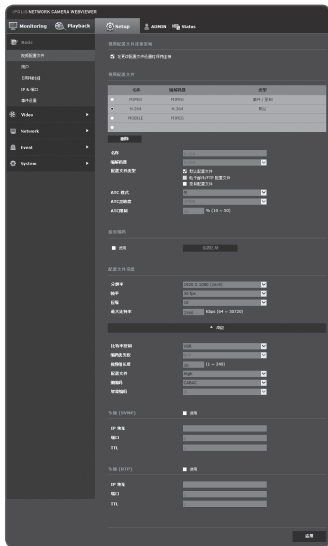


- 预览视频的设置页面要求在PC上安装web查看器插件。
如果尚未正确安装，则安装页面将自动出现。

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连接：
即使在活动配置文件的设置发生更改的情况下，输出也使用相同的设置。如果未选中，则更改现有连接使用的配置文件会重设此类连接。



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 53 页）
5. 单击每个项目的输入框，并输入/选择所需的值。
 - 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：这是应用于视频录制的配置文件。
6. 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。

- 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
CBR	帧速率	压缩

设置屏幕

- 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。

7. 选择“启用”或“禁用”裁切编码功能。

如需更多信息，请参阅“**使用裁剪编码**”。(第 55 页)

- 裁剪编码：只从全屏裁剪所选区域，然后以 **<配置文件设置>** 中指定的分辨率将其输出。
该分辨率应不低于裁剪编码设置区域。

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. 选择 <视频配置文件> 选项之一。
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。

单击 <高级> 以显示上下文。

- 分辨率：设置 H.264 和 MJPEG 文件的视频大小。
- 帧率：设置每秒的最大视频帧数。



“摄像机设置”中的 <传感器> 模式设置会改变最大可配置帧率。

传感器	25 fps	30 fps	50 fps	60 fps
帧率	1~25 fps	1~30 fps	1~50 fps	1~60 fps

- 压缩：指定视频的压缩率。
- 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。
固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。



为比特控制设置固定比特率之后，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）。

设置屏幕

- 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：当 H.264 编解码器被选择时指定一个视频序列中两个连续 I 帧之间的距离（按照多个帧）。（一个 I 帧 + 0）。
- 配置文件：可以选择 H.264 基线方法。
- 熵编码：减少可能因编码引起的压缩损失。
- 智能编码：指定使用智能编解码器。



■ 只有在比特率控制值设置为 CBR 且在视频智能编解码器下配置后方可使用。（第 72 页）

- 多播 (SVNP)：指定使用 SVNP 协议。
 - IP 地址：输入可用于连接至 IPv4 网络的 IPv4 地址。
 - 端口：指定视频通信端口。
 - TTL：为 SVNP 数据包设置 TTL。
- 多播 (RTP)：指定 RTP 协议的使用。
 - IP 地址：输入可用于连接至 IPv4 网络的 IPv4 地址。
 - 端口：指定视频通信端口。
 - TTL：可为 RTP 数据包设置 TTL。



■ 如果您将多播地址设置为 224.0.0.0~224.0.0.255，则多播不能在所有环境中都正常工作。鉴于这种情况，我们建议您更改多播地址。

什么是视频组长度？

视频组（视频对象平面组）是用于 H.264 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 帧仅包含与先前的 I 帧相比发生了变化的数据。

对于 H.264 编解码器，您可以决定视频组长度。

如果您使用 H.264 编解码器设置录制配置文件，则 GOV 长度将为帧率/2。

使用裁剪编码

1. 选择 <使用>。

2. 单击 <设置区域>。

“裁剪编码区域设置”窗口将弹出。

3. 选择 <比率>。

- 比率：设置用户指定区域的高宽比。

- 16:9：高宽比设置为 16:9 并尽可能接近用户指定区域。

可支持的大小范围为 426X240 到 1280X1024，可支持的输出分辨率为 320X180、640X360、800X450 和 1280X720。

- 4:3：高宽比设置为 4:3 并尽可能接近用户指定区域。

可支持的大小范围为 320X240 到 1280X960，可支持的输出分辨率为 320X240、640X480、800X600、1024X768 和 1280X960。

- 手动：设置用户指定区域的高宽比。

可支持的大小范围为 320X240 到 1280X1024，所有可支持的输出分辨率不受限制，但 1920X1080 除外。

4. 在屏幕上拖动光标以指定裁剪编码区域。



- 如果设置为 <手动>，由于裁剪编码区域和输出分辨率之间的高宽比不一致，输出图像可能与实际图像不同。
- 裁剪编码区域设置会根据 DIS 设置的变化而变化。如果 DIS 设置更改，请重置裁剪编码区域。

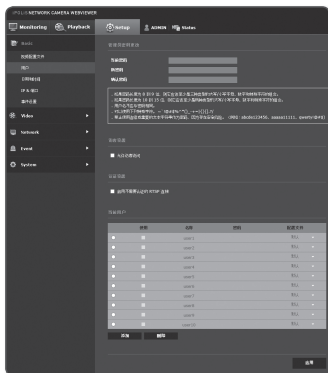
设置屏幕

用户

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



- 出于安全考虑的原因，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。
 - 8 到 9 位字符：至少是大写、小写、数字和特殊字符中 3 种类型的组合。
 - 至少两种类型的大写字母、小写字母、数字和特殊字符的组合：10 到 15 个字符。
 - 密码应与 ID 不同。
 - 为了获得较高的安全性，建议您不要重复使用相同的字符作为密码，也不要使用连续的键盘输入作为密码。
 - 允许使用的特殊字符为：~!@#\$%^&*()_+=|{}[];?/
 - 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，您需要先使用新密码再次登录，然后再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。
 - 访客设置：如果选择了 <允许访客访问>，则访客帐户可以访问 Web Viewer 屏幕，但是只能查看 Live Viewer 屏幕。
 - 访客帐户的 ID/密码是 <guest/guest>，无法更改。
 - 认证设置：如果您选择了 <启用不需要认证的 RTSP 连接>，则您不需要登录就可以访问 RTSP 并查看视频。
 - 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。
 - 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。
-  ■ 允许使用已注册 ONVIF 功能的用户限制为那些已授予许可权的用户。
- 视频传输和更改视频信息：将配置文件设置为 <全部>。
4. 完成后，请单击 **应用** ( **应用**)。

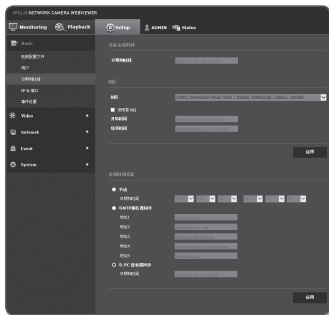
设置屏幕

日期和时间

1. 从设置菜单，选择 <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：指定本地基于 GMT 的时区。
 - 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：手动指定时间。
 - 与 NTP 服务器同步：与指定的服务器地址的时间同步。
 - 与 PC 查看器同步：设置为连接计算机的时间。
4. 完成后，请单击 [应用 ()]。



- 如果您选择 <与 PC 查看器同步>，则应该将标准时区设置为与计算机中的当前时区相同。



IP & 端口

1. 从设置菜单，选择 <Basic ()> 选项卡。

2. 单击 <IP & 端口>。

3. 配置 <IPv4 设置>。

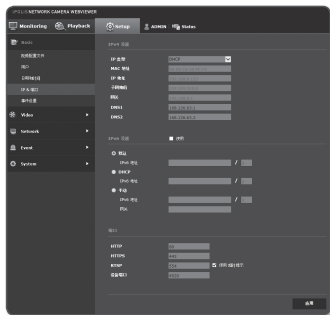
- IP 类型：选择 IP 连接类型。
 - 手动：指定 IP 地址、子网掩码、网关、DNS1 和 DNS2。
 - DHCP：指定 DNS1 和 DNS2。
 - PPPoE：指定 DNS1、DNS2、ID 和密码。
- 如果将其设置为 <手动>，则应手动指定 IP、子网掩码、网关和 DNS 1 和 2。
- MAC 地址：显示 MAC 地址。
- IP 地址：显示当前 IP 地址。
- 子网掩码：显示所设 IP 的 <子网掩码>。
- 网关：显示所设 IP 的 <网关>。
- DNS1/DNS2：显示 DNS（域名服务）服务器地址。

4. 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：手动输入 IP 地址和网关并使用它。



- 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。



设置屏幕

5. 在端口菜单的每个项目中键入所需信息。

- 0 至 1023 之间的端口范围和端口 3702 都不可用。
- 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，在您的 Safari 或 Google Chrome 浏览器中，可以不使用 65535 作为您的 HTTPS 端口。)
- 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 Samsung 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。
此后，地址应该在 IP 后面包含新分配的 HTTP 端口。
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。

6. 完成后，请单击 [应用 (应用)]。

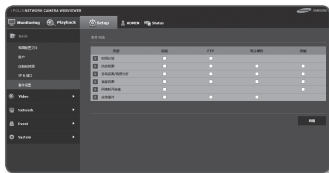
事件设置

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 (应用)]。



- 要进行具体的事件设置，单击所需设置。转到具体的<Event>设置。



视频设置

视频设

1. 从设置菜单，选择 <Video ()> 选项卡。
2. 单击 <视频设置>。
3. 选择 <视频源> 模式。
 - 翻转模式：使摄像机捕捉的图像上下翻转。
 - 镜像模式：使摄像机捕捉的图像水平翻转。
4. 选择“启用”或“禁用”模拟视频输出。
5. 选择视频类型。
6. 指定隐私区域。
7. 完成后，请单击 [应用 ()]。



设置加密区域

可以指定为了您的隐私将保护摄像机视频的某些区域。

1. 将其设置为 <开>。
2. 完成后，请单击 [应用 ()]。
3. 使用鼠标在屏幕上选择 4 个顶点以指定区域。
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 ()]。

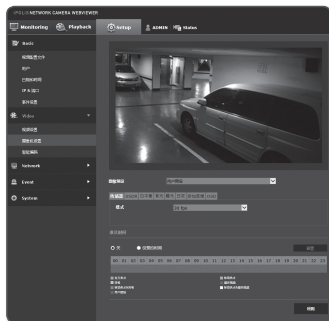


设置屏幕

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 <Video ()> 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
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)，则不会应用您的更改。



如果希望设置图像预设

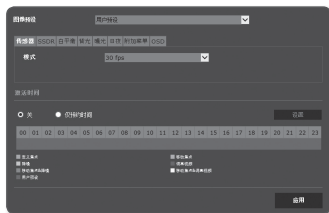
用户可以轻松设置预设。

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。
 - 定义焦点：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。
 - 移动焦点：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。

- 移动焦点&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。
- 移动焦点&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。
- 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。

❗ 如果用户选择预设模式之外的某些内容，那么用户将无法设置快速速度、AGC、SSDR或SSNR3。

2. 为每个图像预设模式设置摄像机项目。

3. 设置 <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：摄像机将在您于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 ()]。



设置屏幕

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	SSNR3
定义焦点（默认） 当更改配置文件时	默认 (1/5)	1/12000	默认 (高)	默认 (12)	默认 (12)
移动焦点	1/30	1/12000	默认 (高)	默认 (12)	4
降噪	1/15	1/12000	中	默认 (12)	默认 (12)
调亮视频	默认 (1/5)	1/12000	默认	18	默认 (12)
移动焦点&降噪	1/30	1/12000	中	默认 (12)	4
移动焦点&调亮视频	1/30	1/12000	默认	18	4
用户预设	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。
- 如果更改图像预设，将只为每种模式初始化快门/自动增益/SSDR/SSNR3。
- 在预设之间“摄像机设置”值不会改变。

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 50 页）
- 如果传感器模式设置为 50 fps 或 60 fps。不能将 <背光> 模式设置为 <宽动态>。

设置 SSDR（Samsung 超级动态范围）

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。



设置屏幕

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。
- 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。
- 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。



- 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。
 - 如果物体的周围环境条件超出测试校正范围
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。

设置背光补偿

可以手动在视频上指定想要的区域和设置要更清晰显示的区域。

1. 选择 **<背光>**。
2. 将 **<模式>** 设置为 **<背光补偿>**。
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>**，**<左边>**，**<右边>** 等级以指定目标区域。



- 设置背光补偿时，绿框在屏幕上显示 15 秒。
- 为了避免在背光补偿设置时出现故障，背光补偿区域的纵向空间应大于 40 且低于 60，而横向空间应大于 30 且低于 60。

设置宽动态

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 **<宽动态>**。
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。
- 如果 **<背光>** 模式设置为 **<宽动态>**，传感器模式不能设置为 50 fps 或 60 fps。
- 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。

设置屏幕

设置曝光

可以调整摄像机的曝光级别。

1. 选择 <曝光>。

2. 选择各项并进行正确设置。

- 亮度：调整屏幕亮度。
- 最小快门：最长曝光时间的限值。
- 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。
- SSNR3：选择“启用”或“禁用”视频噪音消除功能。
- SSNR3 级别：调整降噪级别。
- 自动增益：选择自动增益控制模式。
调整视频的增益值（即，具体地说，在低对比度场景中录制且亮度级别低于正常）以控制视频亮度。



- 根据快门设置范围，图像曝光可能饱和。

设置日夜

1. 选择 <日夜>。

2. 选择各项并进行正确设置。

- 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>。
 - 计划：设置摄像机以彩色模式工作的时间段。
 - 等待时间：必须保持所选亮度条件，以便在日夜之间切换光照模式的时间段。
 - 转换条件：指定光照模式转换的时间间隔。
 - 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。



- 如果您切换日/夜模式，则无法探测 MD/VA 事件。

设置屏幕

设置附加菜单

1. 选择 <附加菜单>。

2. 选择各项并进行正确设置。

- 数字稳定：当稳定图像输入看起来存在晃动时自动补偿图像。
- 锐利度模式：调整图像的总清晰度。



如果选择了 <开>，您可以调整图像的清晰度。

- 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。
- 透雾：在有雾或多云天气时补偿视频。
默认设置为 <关>。当视频在有雾天气看起来模糊时使用附加菜单项。
 - 关：禁用去雾功能。
 - 自动：调整 <透雾级别> 以增强效果。
 - 手动：用户手动设置每个图像的补偿量。



- 如果去雾模式设置为 <自动>，其去雾级别与模糊程度成正比。如需保持去雾级别不变而不考虑模糊程度，可将去雾模式设置为 <手动>。
- 如果在薄雾中手动去雾级别较高，图像可能变得过于黑暗。
- 透雾级别：控制去雾级别。



- 降低当摄像机由于外部因素（如风）晃动时导致的图像抖动程度。

设置 OSD

1. 选择 <OSD>。

2. 选择各项并进行正确设置。

- 摄像机名称：指定要显示在屏幕上的摄像机名称。
- 摄像机名称 X、Y：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：指定在屏幕上显示时间的位置。
- 工作日显示：指定在屏幕上显示使用日期。
- 大小：指定显示在屏幕上的文本的大小。



-  如果可调整位置的项目被另一个固定的 OSD 项目覆盖，那么通常情况下可能无法显示可调整位置的项目（摄像机标题、日期和时间）。

设置屏幕

智能编码

设置来自摄像机的所需视频进入区域作为 ROI 区域，并指定该区域的探测灵敏度。

1. 从设置菜单，选择 <Video ()> 选项卡。
2. 单击 <智能编码>。
3. 选择ROI区域。

- 面部探测：当监视屏幕上识别出面部时激活该功能。



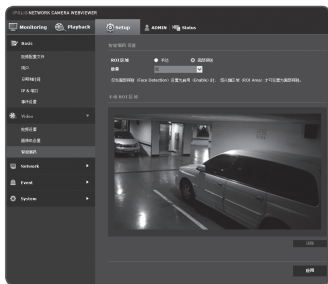
- 最多可以同时在屏幕上检测 35 个面部。
- 对于给定的最大分辨率，可检测面部的最小尺寸为 45x45（水平 x 垂直）像素。但可能会发生一些错误，具体情况取决于面部特征或照明。

- 手动：指定手动监控的ROI区域。

4. 设置图像质量。
ROI区域将以指定的质量显示。
5. 如果手动指定ROI区域，请使用鼠标指针选择所需区域，然后将它拖动到所需大小。
 - 最多可以指定 5 个独立的区域。
6. 要取消区域的所有设置，请单击 [清除()] 按钮。
7. 完成后，请单击 [应用 ()]。



- 如果在 <视频配置文件> 中将智能编解码器设置为 <关>，则它不活动。（第 50 页）
- 转到 <Event> → <面部探测>，将其更改为 <启用> 来设置所需的面部探测区域。



网络设置

DDNS

DDNS 是动态域名服务的缩写，该服务将摄像机的 IP 地址转换成一般主机名，以便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 <Network ()> 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。

- Samsung DDNS：如果使用 Hanwha Techwin 提供的 DDNS 服务器，请选择此项。

- 产品 ID：输入向 Samsung 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。



■ 如果想使用 DDNS 服务而不使用支持 UPnP 功能的集线器，则需要转到集线器菜单并激活集线器的端口转发。

有关如何设置集线器端口转发的详细信息，请参阅“路由器端口设置”。（第 32 页）

- 公共 DDNS：使用公共 DDNS 服务器时，可从所提供的公共 DDNS 服务器中选择一个。

- 服务：选择所需的公共 DDNS 服务器的服务器。

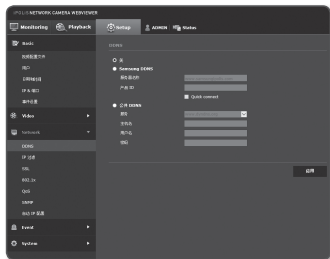
- 主机名：输入向 DDNS 服务器注册的主机的名称。

- 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 ()]。

❗ 如果选择了 <Quick connect>，请确保选择 Samsung DDNS 服务。

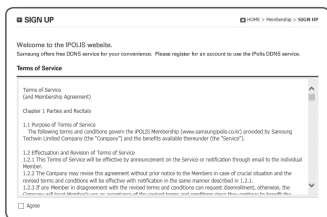


设置屏幕

注册 DDNS

向 Samsung DDNS 注册您的产品

1. 访问 iPOLiS 网站 (www.samsungipolis.com) 并用已注册的帐户登录。



2. 从顶部的菜单栏, 选择 <DDNS SERVICE> - <MY DDNS>。



3. 单击 [PRODUCT REGISTRATION]。

4. 输入产品 ID。

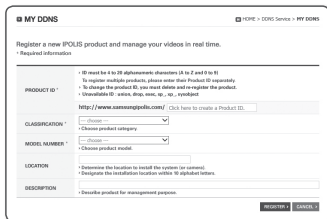
- 必须重复检查您输入的 ID。



5. 选择 <CLASSIFICATION> 并指定 <MODEL NUMBER>。

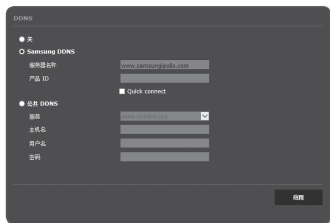
6. 指定产品位置及说明 (如有必要)。

7. 单击 [REGISTRATION]。
产品将添加至产品列表, 您可以对其进行检查。



在摄像机设置中连接至 Samsung DDNS

1. 从 DDNS 设置页面，将 <DDNS> 设置为 <Samsung 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. 打开 DDNS 设置页面并为 <DDNS> 选择 <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 32 页）

设置屏幕

IP 过滤

可以创建想要授予或拒绝访问权限的 IP 列表。

1. 从设置菜单，选择 **<Network ()>** 选项卡。

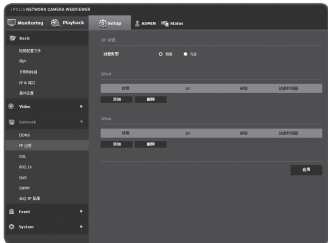
2. 单击 **<IP 过滤>**。

3. 选择 **<过滤类型>**。

- 拒绝：如果选择此项，将限制过滤列表的那些 IP 进行的访问。
- 允许：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 (添加)]** 按钮。
将会创建 IP 列表。

5. 提供想要授予或拒绝访问权限的 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>** 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>**，应该将它添加至 **<允许>**。
- 只有设置为 **<使用>** 的 IP 地址才会显示在过滤器列中。

6. 从列表中选择要删除的 IP。
单击 **[删除 (删除)]** 按钮。

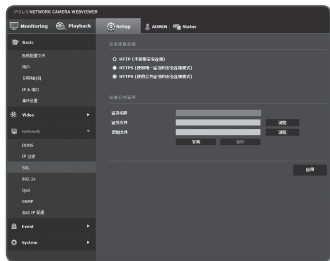
7. 完成后，请单击 **[应用 (应用)]**。

SSL

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 <Network ()> 选项卡。
2. 单击 <SSL>。
3. 选择安全连接系统。

- 若要使用 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 (使用唯一证书的安全连接模式)> 模式下访问网络视频解码器。

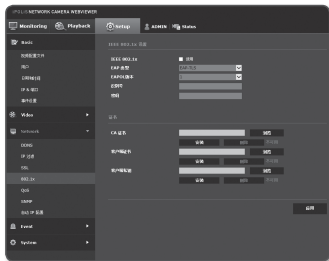
设置屏幕

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 <Network ()> 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。
- 识别号：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

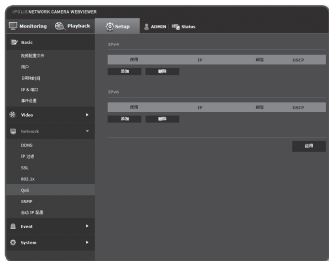
您可以指定优先级以确保特定 IP 的传输率稳定。

1. 从设置菜单，选择 <Network ()> 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。

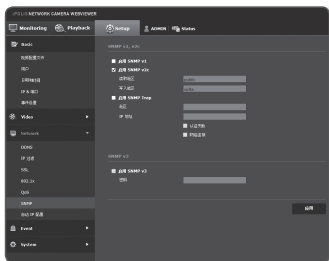
5. 从列表中选择要删除的 IP。
单击 [删除 ()] 按钮。
6. 完成后，请单击 [应用 ()]。



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 <Network ()> 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：提供读取社区的名称，可在其中访问 SNMP 信息。
默认名称为 <public>。
 - 写入社区：提供写入社区的名称，可在其中访问 SNMP 信息。默认名称为 <write>。



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：指定当社区信息无效时是否生成事件。
 - 网络连接：指定当网络断开后恢复连接时是否生成事件。
- 启用 SNMP v3：SNMP V3 将处于活动状态。
 - 密码：指定 SNMP V3 的默认密码。
 - 默认密码可能会向黑客线程公开，因此建议您在安装产品之后更改该密码。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。

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“SSL”。(第 77 页)
- 如果您不使用 SNMP v3，则可能出现安全问题。

自动 IP 配置

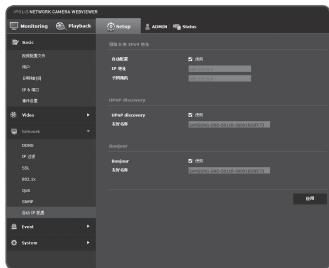
您可以自动设置可用于访问和摄像机搜索的IP。

1. 从设置菜单，选择 <Network ()> 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将会显示出来。

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，已连接的摄像机将会自动显示在 Safari 网络浏览器的 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 ()]。

设置屏幕

事件设置

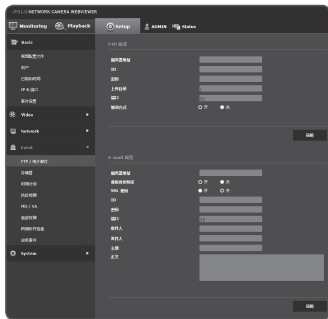
FTP / 电子邮件

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 <Event (🔔)> 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：输入用于发送事件图像的 FTP 服务器 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：设置用于发送事件图像的 FTP 帐户路径。
- 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：输入用于发送事件图像的电子邮件服务器 IP 地址。
- 使用身份验证：选择是否使用身份验证。
- SSL 使用：指定使用 SSL。
- 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。
- 正文：为邮件提供文本。将事件图像附加到电子邮件中。

4. 完成后，请单击 [应用 ()]。

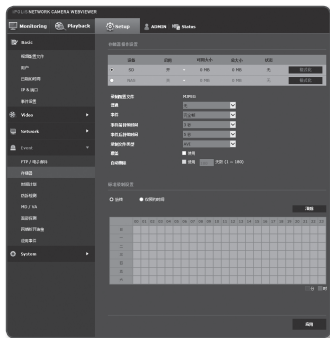
存储器

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 <Event ()> 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。
- 如果按照说明操作后依然显示“错误”信息，请更换 Micro SD 卡。



设置屏幕

在 Micro SD 存储卡上进行录制

1. 检查存储卡的 <可用大小> 和 <总大小>。
2. 如果可用空间足够，请将设备设置为 <开>。
请检查已存储的数据，如果发现它们不重要，则单击 <格式化> 以格式化 Micro SD 存储卡。
 - 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“**推荐 Micro SD/ SDHC/SDXC 存储卡 技术规格**”。(第 11 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。
3. 指定存储操作。
 - 录制配置文件：显示录制配置文件的编解码器类型。
 - 普通：以特定帧速率进行录制。
 - 事件：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：指定警报发出之后的时间点；将传输图像到指定的时间点为止。最多可以指定警报发出之后 120 秒。
 - 录制文件类型：指定所录制图像的文件格式。
 - STW：Hanwha Techwin 的独特文件格式。
 - AVI：传统的 avi 格式。
 - 覆盖：如果 Micro SD 存储卡已满，这将删除旧数据并存储新数据代替。
 - 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。

4. 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)]：清除选择选定的时间。

5. 完成后，请单击 [应用 (应用)]。

如果希望录制到 NAS 中

1. 设置保存操作和基本录制。

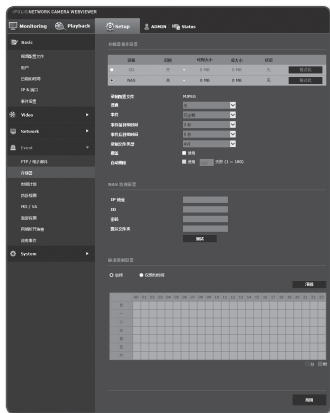
- 只有 NAS 符合建议规格，才能支持自动删除。

2. 输入在 NAS 中注册的信息。

- IP 地址：为 NAS 分配的具有唯一性的 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将数据保存到 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。



设置屏幕

- 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。
 - 检查是否作为其他用户尝试访问, 而没有对所保存和使用的基本文件夹进行格式化。
 - 确认使用了建议的 NAS 设备。
4. 一旦完成设置, 将 NAS 的设置从 <关> 更改为 <开>, 然后单击 [应用 ()] 按钮。
 5. 访问 NAS 来检查可用容量和总容量。
 6. 如果容量不够, 请检查数据, 然后单击 [格式化] 按钮来自行对 NAS 进行格式化。
 - 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。

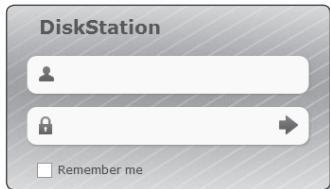
NAS(网络连接存储器)指南



- 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。
- 如果通过将覆盖设置为 <关> 激活覆盖并且可用容量低于 1%，则将其保存在 Micro SD 卡中。
- 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 11 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。
- 根据经验，建议为每个摄像机使用一个 NAS 共享目录，而不应重复使用。
- 若要将文件保存到 NAS 中，文件夹必须使用唯一的 ID。如果文件夹使用多个 ID，则可能无法保存文件。

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. 作为管理员访问 Synology NAS。
在本例中，NAS IP 地址设置为 [192.168.20.253]。

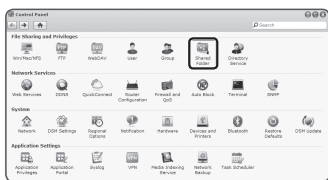


设置屏幕

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

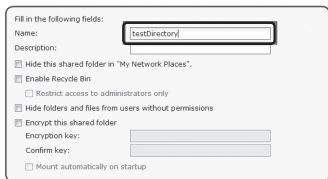


3. 在文件共享和权限菜单中单击 <Shared Folder>。

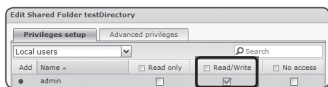


4. 单击 [Create] 按钮。

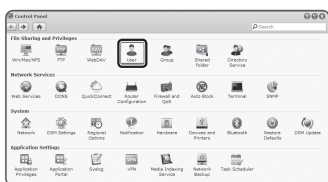
5. 在输入共享文件夹名称 (ID) 后，单击 [OK] 按钮来创建共享文件夹。在本例中，共享文件夹名称是 [testDirectory]。



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]。



- 根据 NAS 建议，在使用 Netgear 的 NAS 设备时，不要分配要使用的容量。

9. 在 Windows 中，设置 NAS 访问的权限。

为第 4 步中创建的名称为 “testDirectory” 的共享文件夹，选中 [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 (应用)] 按钮。
通过使用 NAS 来完成保存。

设备	应用	可用大小	总大小	状态	操作
SD	关	0 MB	0 MB	无	格式化
NAS	开	741.58 GB	912.45 GB	录制	格式化

设置屏幕

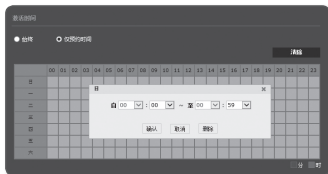
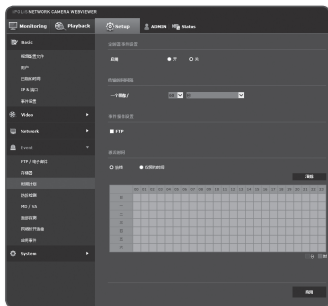
时间计划

可以设置为根据计划以特定间隔保存视频数据，而不考虑事件的实际情况。

1. 从设置菜单，选择 <Event (🔔)> 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 <激活时间>。
 - 始终：始终运行指定的操作。
 - 如果设置为 <始终>，激活时间将无法更改。
 - 仅预约时间：在设置的日期/时间定期执行操作。
 - [清除(清除)]：重置全部设置。
 - 分：单击启动时间中的一个区域，以分钟为单位设置时间。
 - 时：在启动时间上拖动光标，以小时为单位设置时间。

! ■ 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。

6. 指定激活条件。
 - FTP：设置是否在指定的时间执行 FTP 传输。
 - 有关详细信息，请参阅“FTP/电子邮件”。(第 82 页)
7. 完成后，请单击 [应用 (应用)]。



防拆检测

您可以设置为检测拆离尝试并触发事件，例如摄像机取景框方向突然发生变化、镜头被蒙住以及视频的其他整个场景变化。

1. 从设置菜单，选择 <Event (🔔)> 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 <激活时间>。

- 始终：始终检查是否发生事件。发生事件时，执行指定的操作。
- 仅预约时间：在指定的日期/时间定期检查是否发生事件。发生事件时，执行设置的操作。
- [清除(🗑️)]：取消选择选定的时间。

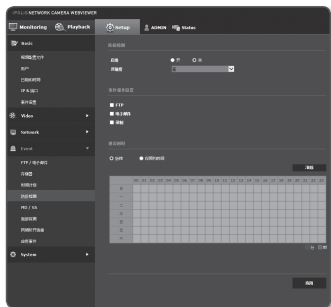
6. 设定发生事件时将执行的操作。

- FTP：指定发生事件时是否执行 FTP 传输。
■ 有关详细信息，请参阅“FTP / 电子邮件”。(第 82 页)
- 电子邮件：指定发生事件时是否执行电子邮件传输。
■ 有关详细信息，请参阅“FTP / 电子邮件”。(第 82 页)
- 录制：指定发生事件时是否保存在 SD 存储卡中。
■ 在 <存储器> 中将 <录制> 设置为 <开>。(第 83 页)

7. 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。

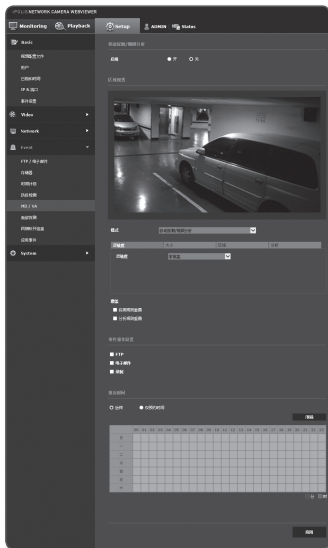


设置屏幕

MD / VA

可将动作探测和视频分析的事件设置为触发事件信号输出。

1. 从设置菜单，选择 <Event (🔔)> 选项卡。
2. 单击 <MD / VA>。
3. 设置是否 <启用>。
4. 根据您的用途，从移动探测和智能视频分析中选择。
5. 设置 <灵敏度>、<大小> 和 <地区>。
选择 智能视频分析时，还需要设置 <分析>。
6. 选择使用 <覆盖>。
 - 探测规则重叠：在视频上表示探测结果。
 - 分析规则重叠：在视频上显示分析规则。
7. 指定激活时间和激活条件。
 - 有关 <激活时间> 和 <动作> 的详细信息，请参阅“防拆检测”。(第 91 页)
8. 完成后，请单击 [应用 (🔧)]。





- 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。
- 如果摄像机拍摄到较近的对象，视频分析功能可能会变弱。
- 在以下情况下，移动探测和智能视频分析功能可能会下降或导致不正确的探测结果。
 - 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。

设置屏幕

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。

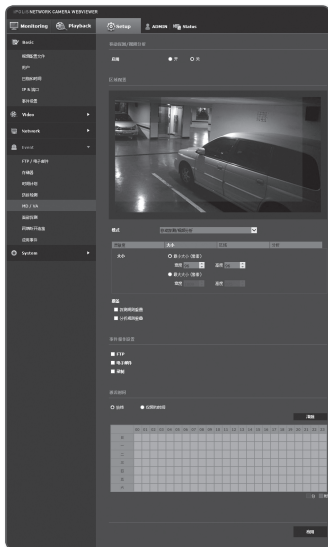
- 在可以清楚区分物体与背景的情况下，将此项设置为低灵敏度级别。在难以区分物体的相反情况下，如低照度环境中，请将此项设置为高级别。

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。

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

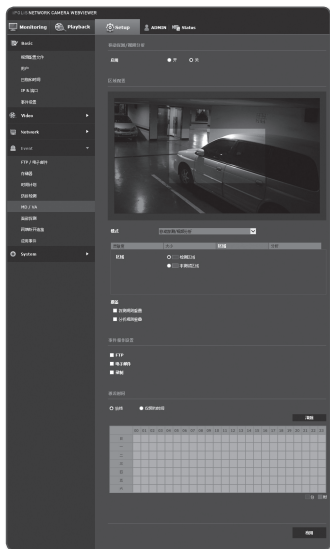
您可以指定屏幕上要包括到探测中或从探测中排除的区域。

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。
- 非测试区域：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. 要删除区域，请右键单击屏幕以打开弹出窗口上下文菜单，然后选择删除和 [确认] 按钮。

6. 完成后，请单击 [应用 (应用)]。

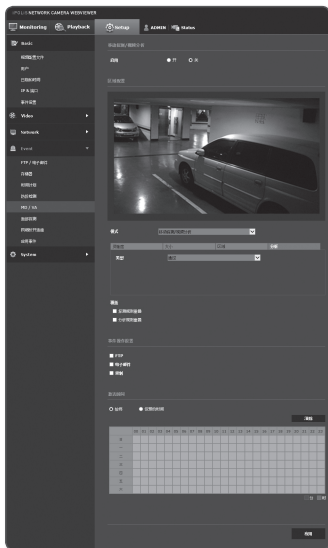


设置屏幕

使用智能视频分析

它会检测满足灵敏度、大小和区域以及事件条件规则指定的所有条件的事件。

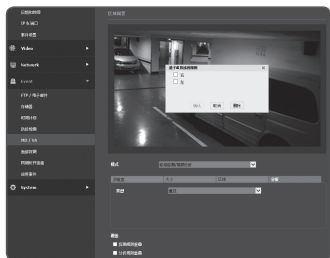
1. 选择视频分析模式。
2. 设置 <灵敏度>、<大小> 和 <地区>。
有关设置的详细信息，请参阅“使用移动探测”。（第 94~95 页）
3. 选择 <分析> 选项卡。
4. 选择视频分析类型。
 - 通过：探测通过用户设置的虚拟线的物体。
 - 进入/退出：探测进入或退出用户设置的区域的物体。
 - 出现（消失）：检测从用户定义区域或整个屏幕区域上出现或消失的移动。
5. 设置视频分析规则。
有关设置的详细信息，请参阅“设置视频分析规则”。（第 97~88 页）
6. 完成后，请单击 [应用 (应用)]。



设置视频分析规则

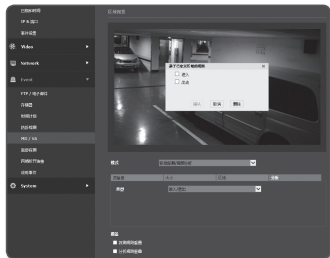
■ 通过

1. 将类型设置为 <通过>。
2. 在屏幕上，单击虚拟线的首选起点和终点，然后一个弹出菜单将会出现。
3. 选择所需规则：
 - 右：检测在虚拟线上从左到右运动的移动。
 - 左：检测在虚拟线上从右到左运动的移动。
4. 单击 [确认]。
5. 要除去已定义的规则，请右键单击显示的虚拟线以打开弹出上下文菜单，然后选择 [删除] 按钮。



■ 进入/退出

1. 将类型设置为 <进入/退出>。
2. 在屏幕上，单击四个顶点以定义检测区域，一个弹出窗口将会出现。
3. 选择所需规则：
 - 进入：检测中心点从区域外部进入已定义区域的移动物体的移动。
 - 出去：检测中心点从已定义区域内部移动到外部的移动物体的移动。
4. 单击 [确认]。
5. 要除去已定义的规则，请右键单击区域的显示的虚内部线以打开弹出上下文菜单，然后选择 [删除] 按钮。



设置屏幕

■ 出现(消失)

1. 将分析类型设置为 <出现(消失)>。

2. 选择所需事件规则：

- 基于已定义区域的规则：它会检测出现在区域中并且在未通过区域边界时保留一定时间段的出现物体，以及相反情况下存在于区域中的物体消失。

在屏幕上，单击四个顶点以定义检测区域。

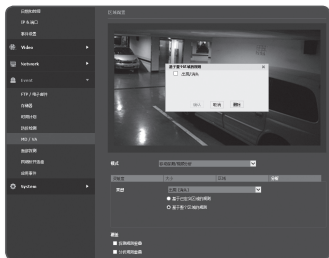
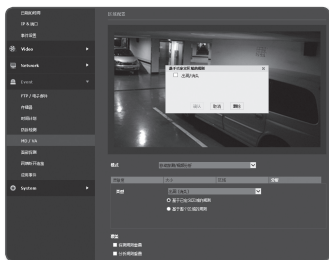
从弹出菜单中选择 <出现/消失>。

- 基于整个区域的规则：它会检测出现在整个屏幕中并保留一定时间的出现物体的事件，以及相反情况下存在于屏幕中的物体消失。

右键单击屏幕以打开弹出上下文菜单，然后选择 <出现/消失>。

3. 单击 [确认]。

4. 要除去已定义的规则，请右键单击区域的显示的虚内部线或屏幕以打开弹出上下文菜单，然后选择 [删除] 按钮。



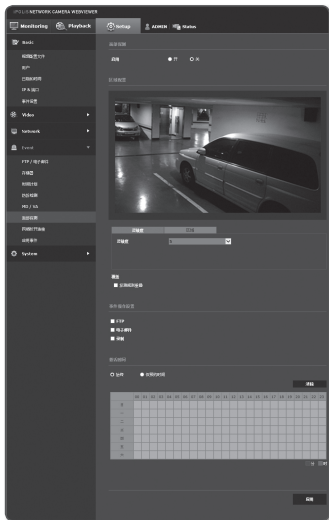
面部探测

可以设置为探测已识别的面部并相应地触发事件。

1. 从设置菜单，选择 <Event (👤)> 选项卡。
2. 单击 <面部探测>。
3. 设置是否 <启用>。
4. 选择 <灵敏度> 选项卡以设置灵敏度级别。
 - 当灵敏度提高时，面部探测变得更靠近并且细腻。
5. 选择 <地区> 选项卡，使用鼠标在图像上选择 4 个顶点以指定探测区域。

- ❗
- 最多可以同时屏幕上检测 35 个面部。
 - 对于给定的最大分辨率，可检测面部的最小尺寸为 45x45（水平 x 垂直）像素。但可能会发生一些错误，具体情况取决于面部特征或照明。

6. 如需删除指定区域，请按鼠标右键，然后在弹出窗口中单击 [确认]。
7. 设置是否使用 <探测规则重叠>。
探测到面部时，会在屏幕上以矩形标记其位置和大小。
8. 指定激活时间和激活条件。
 - 有关 <激活时间> 和 <动作> 的详细信息，请参阅“防拆检测”。(第 91 页)
9. 完成后，请单击 [应用 (应用)]。

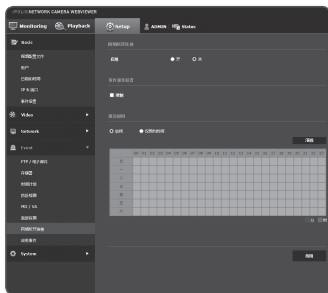


设置屏幕

网络断开连接

断开网络连接时，将视作保存事件。

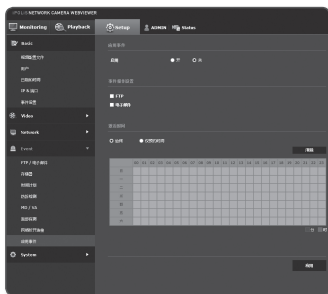
1. 从设置菜单，选择 <Event (🔔)> 选项卡。
2. 单击 <网络断开连接>。
3. 设置是否 <启用>。
4. 指定激活时间和激活条件。
 - 有关 <激活时间> 和 <动作> 的详细信息，请参阅“防拆检测”。(第 91 页)
5. 完成后，请单击 [应用 (应用)]。



应用事件

可以将系统设置为发生应用中已定义事件时生成信号。提供的事件信号因应用功能不同而异。

1. 从设置菜单，选择 <Event (🔔)> 选项卡。
2. 单击 <应用事件>。
3. 设置是否 <启用>。
4. 指定激活时间和激活条件。
 - 有关 <激活时间> 和 <动作> 的详细信息，请参阅“防拆检测”。(第 91 页)
5. 完成后，请单击 [应用 (应用)]。



系统设置

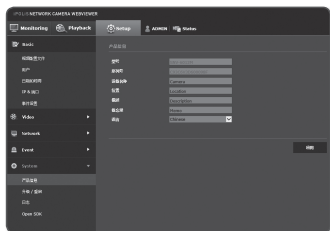
产品信息

1. 从设置菜单，选择 <Event ()> 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地理解。
 - 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 ()]。



设置屏幕

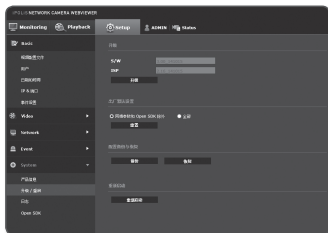
升级 / 重启

1. 从设置菜单，选择 <System ()> 选项卡。

2. 单击 <升级 / 重启>。

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：将系统重置为出厂默认值。
 - 网络参数之外：初始化除了网络设置和镜头设置以及 Open SDK 安装文件和内部设置之外的所有内容。
 - 全部：重置包括摄像机设置在内的所有设置。(但是，将不重置日志信息)
 - 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 [升级]。
2. 单击 [浏览] 并指定要升级的文件。
3. 单击 [发送]。
4. “升级”对话框出现，其底部将显示进度。
5. 完成升级之后，浏览器将会退出，并且摄像机将会重新启动。



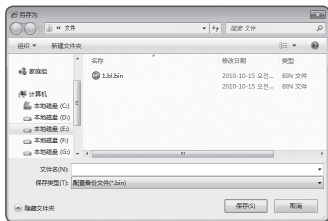
- 升级过程大约需要 10 分钟。
如果强行终止升级流程，升级将无法正确完成。
- 在重新启动系统期间，不能使用 Web Viewer 进行访问。
- 可以从 Hanwha Techwin 网站下载最新版本。



设置屏幕

备份当前设置

1. 单击 [备份]。
另存为对话框将出现。
2. 指定备份路径及正确的文件名，然后单击 [保存(S)]。
备份文件将以“.bin”格式保存到指定的路径。

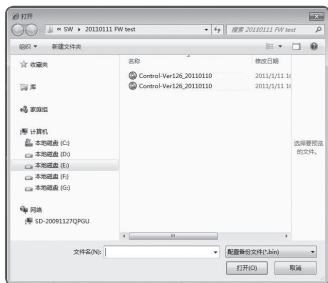


恢复备份设置

1. 要恢复备份设置，请单击 [恢复]。
2. 选择备份文件，然后单击 [打开(O)]。



- 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。



日志

可以检查系统日志或事件日志。

1. 从设置菜单，选择 <System ()> 选项卡。

2. 单击 <日志>。

3. 选择日志类型。

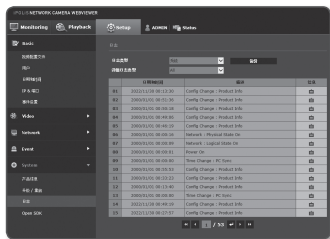
- 系统：您可以检查系统日志，其中记录了所有系统更改，包括时间信息。
- 事件：可以检查事件日志，包括时间信息。

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（系统、事件）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。



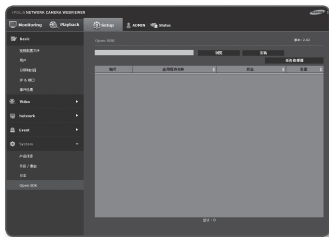
- 如果要查看日志的详细信息，请单击日志右列中的 [信息 ()]；日志信息将显示在底部窗格中。
- 每页显示 15 个日志，最新的日志显示在顶部。
- 事件/系统日志列表最多可包含 1000 个日志；之后，每当创建新日志时，将删除最旧的现有日志。

设置屏幕

Open SDK

用户可以在摄像机上安装应用程序来执行更多功能。

1. 从设置菜单，选择 <System ()> 选项卡。
2. 单击 <Open SDK>。
3. 单击[浏览 ()]按钮从用户文件夹选择 *.cap 文件。
4. 单击[安装 ()]按钮可安装应用程序。
5. 列表中显示所安装应用程序的信息。



- 卸载：删除已安装或运行中的应用程序。
- 转至应用程序：转到每个应用程序的 Web 页面。
- 启动：执行已安装的应用程序
- 停止：终止正在运行的应用程序。
- 健康：显示当前运行的应用程序的资源占用率、线程数和执行时间等。
- 优先级：设置运行中应用程序的优先级。
如果摄像机（包括主任务和应用程序）的总资源利用率超出 80%，将强制终止某个正在运行的应用程序。此时将使用用户设置的优先级，确定应首先停止哪个应用程序。
- 自动启动：当摄像机的电源或主任务开始运行时，已经激活自动执行的指定应用程序将自动运行。
- 任务管理器：显示摄像机中当前运行的应用程序的资源占用率。
 - 内存使用情况 (%)：这是每个应用程序的内存使用率。
 - CPU 使用情况 (%)：这是每个应用程序的 CPU 使用率。
 - 线程计数：这是每个应用程序创建的线程计数。
 - 持续时间：这是每个应用程序的总执行时间。
 - 终止任务：终止应用程序。
 - 使用情况总计：这是摄像机（包括主要任务和应用程序）的总资源占用率。



■ 有关应用程序使用或安装的问题，请参阅 Techwin 开发人员网站。

查看配置文件信息

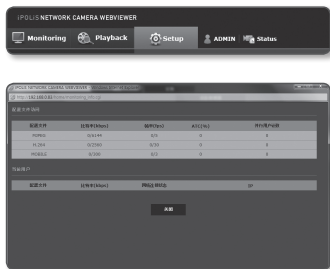
配置文件访问

您可以检查配置文件信息。

1. 单击实时屏幕中的[Status ()]。

2. 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 [Status ()] 以刷新它。应用更改需要一些时间。

附录

规格

项目		说明
视频	成像设备	1/2.8" PS Exmor 2.38M CMOS (IMX136)
	总像素数	1952(水平) x 1116(垂直)
	有效像素数	1944(水平) x 1104(垂直)
	扫描系统	逐行扫描
	最低照度	彩色 : 0.3 Lux (1/30sec, F1.2, 50IRE), 0.005 Lux (2sec, F1.2, 50IRE) 彩色 : 0.08 Lux (F2.0, 30IRE)
	S/N 比率	50dB
	视频输出	CVBS : 1.0 Vp-p / 75Ω 复合, 720x480(N), 720x576(P), 供安装使用 - DIP 连接器类型
镜头	焦距(变焦比率)	3.0 毫米
	最大孔径比	F2.0
	视野角度	H : 103.1°, V : 53.9°, D : 124.5°
镜头	镜头类型	固定光圈
	安装类型	内置板类型
平移/倾斜/旋转	平移范围	水平方向 10 度。
	倾斜范围	0°~90°
	旋转范围	-
操作	摄像机标题	关/开 (最多显示 45 个字符)
	日夜	自动 (SW)/彩色/黑白/计划
	背光补偿	关/背光补偿
	宽动态	120dB†
	对比度增强	SSDR (Samsung 超级动态范围) (关/开)

项目		说明
操作	数字降噪	SSNRIII (2D+3D 噪音过滤) (关/开)
	数字图像稳定器	关/开
	透雾	自动/手动/关
	移动探测	关/开 (4个 4 点多边形区域)
	隐私遮挡	关/开 (具有 4 个多边形点的 32 个区)
	增益控制	关/低/中/高
	白平衡	自动追踪白平衡/自动控制白平衡/手动/室内/室外
	电子快门速度	最小/最大/防闪烁 (2 ~ 1/12,000秒)
	数字 PTZ	-
	翻转/镜像	关/开
	智能视频分析	面部探测, 防拆, 虚拟线, 进入/走出, 出现/消失
	音频输入	-
	音频输出	-
	警报触发	移动探测, 防拆, 面部探测, 视频分析, 网络断开连接
	报警事件	- 通过 FTP 上传文件, 电子邮件 - 通过电子邮件通知 - 发生事件 (警报触发) 时进行本地存储器 (SD/SDHC/SDXC) 或 NAS 录制

附录

项目		说明
网络	以太网	10Base-T / 100Base-TX, M12 插头 (4 孔 D 型母插头)
	视频压缩格式	H.264(MPEG-4 Part 10/AVC), Motion JPEG
	分辨率	1920x1080 / 1280x1024 / 1280x960 / 1280x720 / 1024x768 / 800x600 / 800x450 / 640x480 / 640x360 / 320x240 / 320x180
	最大帧速率	H.264 : 所有分辨率下最大 60 fps Motion JPEG : 1920x1080 / 1280x1024 / 1280x960 / 1280x720 / 1024x768 : 最大 15 fps 800x600 / 800x450 / 640x480 / 640x360 / 320x240 / 320x180 : 最大 30fps
	视频质量调整	H.264 : 压缩级别、目标比特率级别控制 MJPEG : 质量级别控制
	比特率控制方法	H.264 : CBR 或 VBR Motion JPEG : VBR
	流能力	多流 (最多 10 个配置文件)
	音频压缩格式	-
	音频通信	-
	IP	IPv4, IPv6
	协议	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour

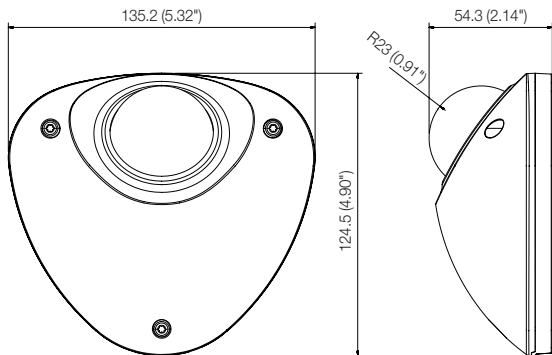
项目		说明
网络	安全	HTTPS(SSL) 登录验证 分类登录验证 IP 地址过滤 用户访问日志 802.1X 身份验证方法
	流方法	单播/多播
	最大用户访问量	单播模式下 15 个用户
	内存插槽	微型 SD/SDHC/SDXC - 可以下载 SD/SDHC/SDXC 存储卡中的录制数据。
	应用程序编程接口	ONVIF Profile S HTTP API(SUNAPI) 2.0 S/NP 1.2
	语言	英语、法语、德语、西班牙语、意大利语、中文、韩文、俄语、日语、瑞典语、丹麦语、葡萄牙语、捷克语、波兰语、土耳其语、罗马尼亚语、塞尔维亚语、荷兰语、克罗地亚语、匈牙利语、希腊语、挪威、芬兰
	Web 查看器	支持的操作系统: Windows XP / VISTA / 7 / 8 / 8.1, MAC OS X 10.7 支持的浏览器: Microsoft Internet Explorer (版本 11 ~ 8) Mozilla Firefox (版本 19 ~ 9) ※ 仅限 Windows Google Chrome (版本 25 ~ 15) ※ 仅限 Windows Apple Safari (版本 6.0.2 (仅限 Mac OS X 10.8、10.7), 5.1.7) ※ 仅限 Mac OS X
	中央管理软件	SmartViewer
	Mobile Viewer	iPOLiS mobile

附录

项目		说明
环境	工作温度/湿度	-30°C ~ +55°C (-22°F ~ +131°F) / 低于 90% RH
	贮藏温度/湿度	-30°C ~ +60°C (-22°F ~ +140°F) / 低于 90% RH
	进入保护	IEC 60529 IP66
	抗振	EN 50155 等级 T3 (振动、冲击、碰撞、温度) EN 50121、ISO 16750-3 (振动)
	防破坏	IEC 62262 等级 IK10 (20J)
	UL	UL60590-1
电气	输入电压/电流	PoE (仅 A 型)
	功耗	最大 7.5W
机械	颜色/材料	象牙白/铝质
	尺寸 (宽x高x深)	宽135.2 x 高124.5 x 深54.3 毫米
	重量	530g

产品视图

单位:毫米(英寸)



附录

故障排除

故障	解决方法
无法使用网络浏览器访问摄像机。	• 检查摄像机的网络设置 是否正确。 • 检查网络缆线是否正确 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。 • 若摄像机与宽带路由器连接、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。
无法使用 IE 7.0 的选项卡浏览器连接系统。	• 由于共享了 cookie 数据，所以与新窗口或选项卡连接时可能出错。不要使用新窗口或选项卡，选择“文件 → 新建会话”
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。
<Event> 的 <MD/VA> 设置为 <启用> 但我未收到任何电子邮件通知，甚至发生了分析事件也是如此。	• 按以下顺序验证设置： A. 检查 <日期和时间> 设置。 B. <MD / VA> 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。

故障	解决方法
即使我未使用 <MD / VA>, 是否也可以定义事件规则?	是, 可以。无论智能视频分析设置如何, 您均可设置事件规则。
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 <Setup> → <Event> → <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。 - 检查是否作为其他用户尝试访问, 而没有对所保存和使用的基本文件夹进行格式化。 - 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 3.0	
Busybox	GPL 2.0	http://www.busybox.net/downloads/snapshots
iproute2-3.1.0	GPL 2.0	
alsa-utils-1.0.24.2	GPL 2.0	
alsa-lib-1.0.24.1	GPL 2.0	
iptables-1.4.12.2	GPL 2.0	http://ftp.netfilter.org/pub/iptables
ethtool-3.2	GPL 2.0	
mtid-1.4.1	GPL 2.0	ftp://ftp.infradead.org/pub/mtid-utils
mii-diag-2.11	GPL 2.0	
rp-pppoe-3.10	GPL 2.0	http://www.roaringpenguin.com/pppoe/
wpa_supplicant-0.7.3	GPL 2.0	
bash-4.2	GPL 3.0	
zeroconf	GPL 2.0	

LGPL SW

Component Name	License	URL
glibc	LGPL 2.0	
lnetutils	LGPL 3.0	
neon-0.29.6	LGPL 2.0	http://www.webdav.org/neon/
	(The Manual and test suite are GPL)	

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 S

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 machine-readable 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 Lwihaetn ysoeu want to do, use the GNU Lesser General Public 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. We precise 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:

- a) The work must carry prominent notices stating that you modified it, and giving a relevant date.
- b) 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".
- c) 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.
- d) 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 or 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:

- a) 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.
- b) 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.
- c) 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.
- d) 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.

- e) 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:

- a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or
- b) 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
- c) 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
- d) Limiting the use for publicity purposes of names of licensors or authors of the material; or
- e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or
- f) 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-1.0.1g	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 for 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 acknowledgment: "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 publically 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-5.7.1	BSD	http://www.net-snmp.org/about/license.html
pcrc-8.20	BSD	
openssh-5.9p1	BSD	
libcap-1.2.1	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
Game-ws	BSD 2.0	
MiniUPnP Project Client	BSD 2.0	
pppd-2.4.5	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 web servers and takes care of cpuload. 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 Internet-standard 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 Sanin

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 Harwha Techwin, 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 Modification(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 that 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, MERCHANTABILITY, 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 Minguillon, 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 Hardware-dependent 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.

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.

2. 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.
3. 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.
4. 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:
 - (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
 - (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
 - (c) 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
 - (d) 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.

5. 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.
6. 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.
7. 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, NON-INFRINGEMENT, 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.
8. 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.
9. 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
bzip2-1.0.5	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
lperf-2.0.5	University of Illinois / NCSA Open Source

lperf 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 (lperf) 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-1.2.5	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 Techwin 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 Techwin 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。

韩华泰科(天津)有限公司

Hanwha Techwin(Tianjin) Co.Ltd

天津市西青区津港公路微电子工业区微六路11号

No.11, wei 6 Road, Micro-Electronics Industrial Park, Xiqing District,Tianjin, 300385, China

联系电话(免费客服热线)：800.818.1212 / 400.690.6677

www.hanwha-security.cn
