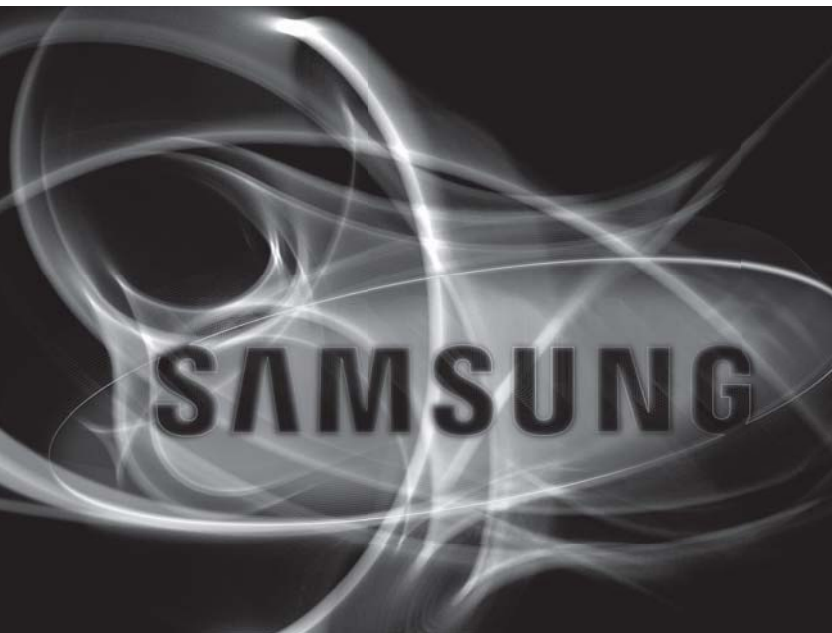


SAMSUNG TECHWIN

网络摄像机 用户手册

SND-3080C



网络摄像机

用户手册

版权

©2011 Samsung Techwin Co., Ltd. 版权所有。

商标

 **SAMSUNG TECHWIN** 是 Samsung Techwin Co., Ltd. 的注册商标。

本产品的名称是 Samsung Techwin Co., Ltd. 的注册商标。

本手册中提及的其他商标属其相应公司的注册商标。

限制

Samsung Techwin Co., Ltd. 保留本文档的版权。在任何情况下，未经 Samsung Techwin 正式批准，不得复制、发行或更改本文档的一部分或全部。

免责声明

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

使用本文档及所产生的结果完全由用户自行负责。

Samsung Techwin 保留更改本文档的内容而不提前通知的权利。

保修

如果在正常条件下，产品无法操作，请告诉我们。Samsung Techwin 将免费解决问题。

保质期是 3 年。但是，不包括下列情况：

- 如果因为运行与系统操作无关的程序而导致系统行为异常。
- 使用时间长而导致性能下降或自然磨损

概述



注意

不要擅自拆装机器，
避免电击



注意：为避免触电危险，不得取下机器后盖。机器内部没有用户可修理的部件。
修理工作只允许由具备资格的人员进行



此符号表示在机壳内部存在未绝缘的危险电压，有触电的危险。



此符号提醒注意随同资料中重要的操作和保养说明。

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。
- 像头仅可连接到 PoE 网络时无需路由至外部厂址。

警告

1. 请使用符合产品规格的适配器。使用其它任何适配器都可能造成火灾、触电事故或产品损坏。
2. 电源接错时可能引发火灾，触电事故或产品故障。
3. 禁止同一个适配器上同时连接多台摄像机使用，适配器容量超载可能引起异常发热及火灾。
4. 电源线应该牢固插入电源插座中（连接不牢固时可能造成火灾）。
5. 将摄像机安装于墙壁或天花板上时，应安全牢固地固定。摄像机坠落可能造成人身伤害。
6. 请勿将导体（如：螺丝刀、硬币或金属物）或盛满水的容器置于摄像机之上。
7. 请勿将本装置安装在潮湿、多尘或多烟的地方否则可能造成火灾或触电。
8. 如果装置中发出异常气味或烟雾请停止使用本产品。此时应立即拔出电源与服务中心联系。
此时如果继续使用可能造成火灾或触电

概述

9. 如果本产品工作异常，请与经销商或最近的服务中心联系。请勿以任何方式拆解或更改本产品。
(因未授权用户拆解或维修造成的问题不在保修范围之内)。
10. 清洁时，请勿将水滴直接溅在产品部件上。(否则可能造成火灾或触电)。
11. 不要将产品置于正对着空调气流的位置。
否则，由于圆顶摄像机内外的温度差异，会在清澈的圆顶内产生湿气凝结。
12. 如果您在低温区域(例如冷库内)安装本产品，则必须用硅密封电线导管，使得外面的空气不能流入机盒中。
否则，外面湿度很高的空气可能会流入机盒中，由于内外温度差异而导致产品内部潮湿或有水蒸汽。

注意

1. 请勿将物体掉落在产品上或使产品受到冲击。或有磁场干扰的地方。
2. 请勿将产品安装在高温(超过 50°C)，低温(低于 -10°C)，或湿度高的地方，如果这样做就会导致火灾电击。
3. 如果移动已经安装好的产品时，在移动或重新安装前，请务必关掉电源。
4. 出现雷电时，请从插座拔出电源插头，如果疏忽，可能导致火灾或损坏产品。
5. 避免有阳光直射的地方或热源，如果疏忽可能带来火灾。
6. 安装在通风良好的地方。
7. 避免将摄像机直接暴露在有阳光的地方，否则会破坏 CCD 的传感器。
8. 要防止机器淋雨或溅水。不要在机器上放置诸如花瓶一类的液体容器。
9. 电源插头需要经常插拔，请安装在可方便拆卸的场所。用户对机器操作时，要保证插头牢固插入到电源插座中，以确保稳定操作。
10. 在户外使用摄像机时，由于户内外存在温差，可能导致摄像机内部出现湿气。因此，我们建议您将摄像机安装在户内。当需要将摄像机安装在户外时，请使用内嵌有风扇和加热装置的摄像机。

注意

如果电池替换错误，则具有爆炸危险。
只替换相同或同等类型。

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. 请您用干布清洁本机器。
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是必须的具备充分的保护。
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。



概述

目录

概述	3	5	重要的安全说明
		8	产品特色
		8	推荐 PC 技术规格
		9	附带提供的物品
		10	简图
安装与连接	14	14	取下护盖
		15	插入/拔出 SD 记忆卡
		16	记忆卡信息 (不含)
		17	与其他设备连接
		19	安装
摄像机设置	22	22	如何使用键盘控制器
		23	主菜单
		23	概图
		24	摄像机设置
		29	加密区域
		30	其他
		31	系统信息
网络连接和设置	32	32	将摄像头与使用 xDSL/Cable 调制解调器的 宽带路由器连接
		33	将摄像头与局域网的 宽带路由器连接
		34	将摄像头与基于 DHCP 的 xDSL/Cable 调制解调器直接连接
		35	将摄像头与局域网直接连接
		36	在 IP Installer 中使用的按钮
		37	静态 IP 设置
		40	动态 IP 设置
		41	端口范围前移 (端口映射) 设置
		42	从共享的本地 PC 连接到摄像机
		42	从远程 PC 通过互联网连接到摄像机

WEB 查看器

43

- 43 连接到摄像机
- 44 登录
- 45 安装 ActiveX
- 46 使用现场屏幕
- 47 备份
- 49 查看目标计数
- 50 使用 SD 搜索查看器屏幕

设置屏幕

51

- 51 访问设置屏幕
- 52 默认设置
- 57 系统设置
- 60 重叠设置
- 61 事件设置
- 72 网络设置

附录

73

- 73 概图
- 74 术语
- 75 规格
- 79 帧率 (NTSC)
- 85 帧率 (PAL)
- 91 故障排除
- 93 GPL/LGPL Software License

概述

产品特点

- **支持各种通信协议**

支持 TCP/IP、UDP、RTP/RTSP、SMTP（用于邮件）和 FTP 协议，以及多种因特网协议，例如 ARP、HTTP、HTTPS 和 DHCP。

- **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。

- **自动本地 IP 设置**

即使网络新手也可以用最少的操作进行安装。

- **警报**

如果连接了警报感应器并检测到有移动，则有信息通过 FTP/电子邮件 (SMTP) 发送到登记地址或存放在 SD 内存卡中，或向警报输出终端发出报警信号。

- **目标计数（仅 MJPEG Live 屏幕显示事件规则和动作矩形）**

将目标计数规则应用到源图像并获取数据，以传输到配置的 FTP 服务器或以图形格式显示。

推荐 PC 技术规格

- CPU：Pentium4 / 2.4GHz 或更高
- 操作系统：Windows XP (SP2, SP3) / Windows Vista / Windows 7
- 分辨率：1024X768 像素或更高
- RAM：512MB 或更大
- 网络浏览器：IE 6.0 或更高版本
- 显卡：Radeon 或 Nvidia
- 显存：128MB
- DirectX8.1 或更高版本

兼容 宽带路由器

- Linksys
- D-Link
- Netgear

兼容 PoE 交换机

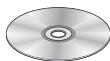
- Linksys SRW224G4P
- D-Link DES-1316
- SMC SMCPWR-INJ3

附带提供的物品

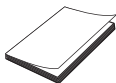
请检查产品包装内是否已包括摄像机和所有附件。



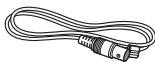
摄像机



用户手册/IP INSTALLER DVD



用户手册



测试监视器电缆



螺钉



防尘板

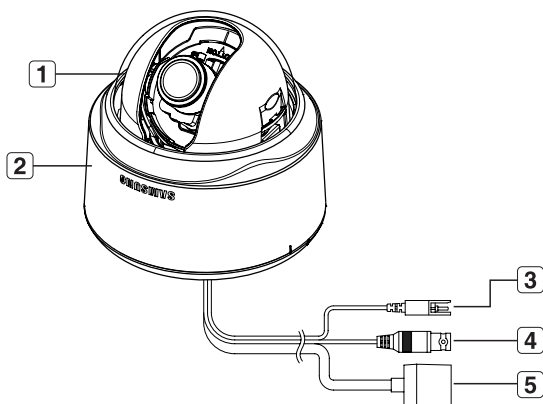


- 测试监视器电缆连接到手持式播放器，用于测试摄像机。如果您想将其用于实际监视摄像机，请换用 BNC 电缆。

概述

简图

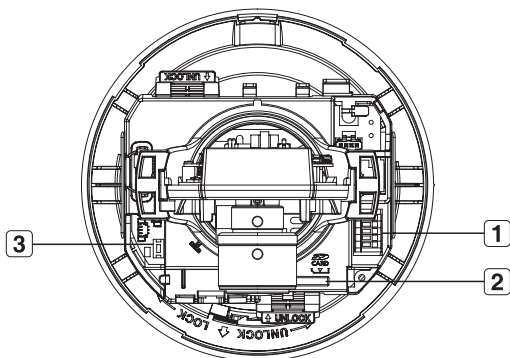
外观



项目	说明
1 圆顶盖	用于保护镜头和主设备的护盖。
2 主设备	包括：镜头、开关板、PCB 和螺钉。
3 电源端口	用于插入电源线。
4 视频输出端口	用于连接输出摄像机视频信号的显示器的视频输入连接器。
5 网络端口	用于连接 PoE 或 LAN 电缆。

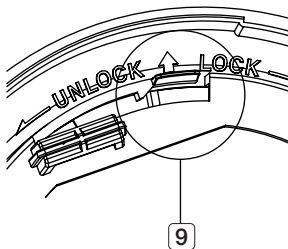
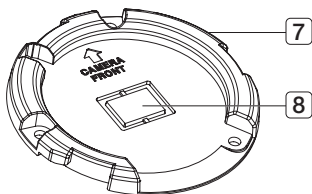
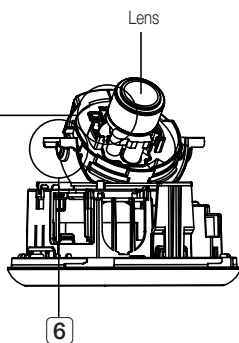
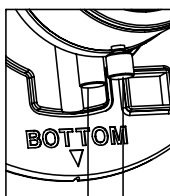
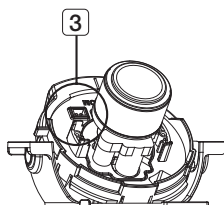
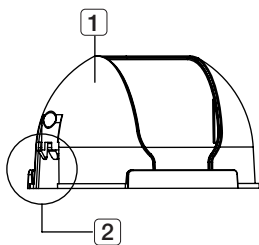


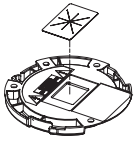
- 用擦镜布或蘸有乙醇的布块轻轻擦拭透镜去除表面脏污。



项目	说明
1 警报输入/输出端子	警报输入/输出端子可以进行如下配置： - ALARM IN：用于警报输入的端子 - ALARM OUT：用于警报输出的端子 - GND：接地端子
2 SD 内存卡盒	用于 SD 内存卡的盒子。
3 重置按钮	重置摄像机设置。 按下按钮约 3 秒钟，并且系统指示灯会关闭，并将重新启动。 ■ 重置摄像机需要使用 IP Installer 应用软件重新配置网络设置(IP 地址、子网掩码、网关地址等)。

概述



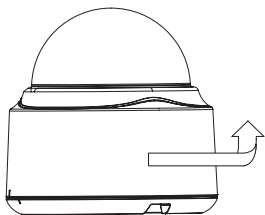
项目	说明
1 内部护盖	用于保护主设备的护盖。
2 侧面挂钩	按任意一端即可取出内部护盖。
3 监控输出	测试监视器电缆连接到手持式播放器,用于测试摄像机。
4 对焦杆	将其向左或向右旋转调节对焦设置;顺时针旋转固定对焦。
5 倾斜螺钉	用于调节或固定镜头的倾斜度。
6 支架	用于与螺钉一起将摄像机安装在墙上或天花板上。
7 上层盖	如果您准备将摄像机安装在天花板上,为了穿入电线,可将此盖取出。
8 配线盖	如果在配线盖上钻孔以配线,请移除盖子并连接提供的防尘板,然后通过板排放电缆。防尘板用于防止外部尘埃进入配线隔室。 
9 释放锁	如果您想从主设备取下支架,或者从支架上取下摄像机,要推一下该按钮,然后向 <UNLOCK> 方向转动主设备。

安装与连接

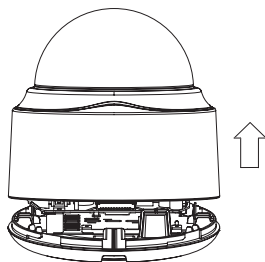
取下护盖

如果您想连接警报 I/O 连接器,必须事先取下圆顶盖和镜头盖。

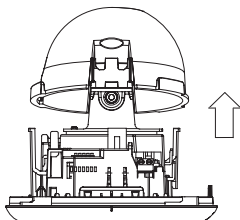
1. 逆时针方向转动圆顶盖。



2. 将圆顶盖向上抬起取下。



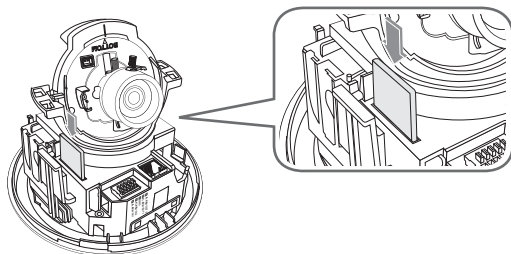
3. 按镜头盖的任意一端即可将其取出。



插入/拔出 SD 记忆卡

插入 SD 记忆卡

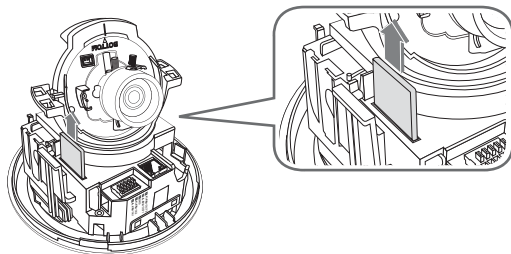
将 SD 记忆卡按图示箭头的方向推入。



- ! 请勿在 SD 内存卡翻转时用力插入。否则，可能会损坏 SD 内存卡。

拔出 SD 记忆卡

轻轻地按压记忆卡露在外面的一端，依图示的方式从插槽中弹出记忆卡。



- ! 过度用力按压 SD 记忆卡可能会导致卡不可控制地从插槽中弹出。
- 在弹出 SD 内存卡前，请取消选择 <警报图像> 中的 <SD 卡录制> 复选框，然后按 [应用] 按钮。（第 64 页）

安装与连接

记忆卡信息(不含)

什么是记忆卡?

记忆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。

选择一款适合您的记忆卡

您的摄像头支持 SDHC 记忆卡。

根据记忆卡的型号和制作材料不同,您可能会遇到兼容性的问题。

您的摄像头支持 SD 记忆卡。

请注意,支持的内存卡最大为 2GB。

对您的摄像头,我们建议您使用以下厂商制造的记忆卡:

SDHC/SD 记忆卡: Panasonic、Sandisk 以及 Toshiba。

您的摄像头支持 128MB 至 16GB(SD卡:2GB)容量的记忆卡。

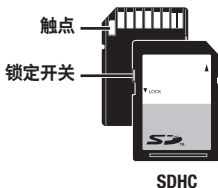
回放性能可能受记忆卡速度的影响,因此,请使用高速记忆卡。

我们建议,最好使用最小读/写速度 10Mbps,且符合 6 类规格的记忆卡。

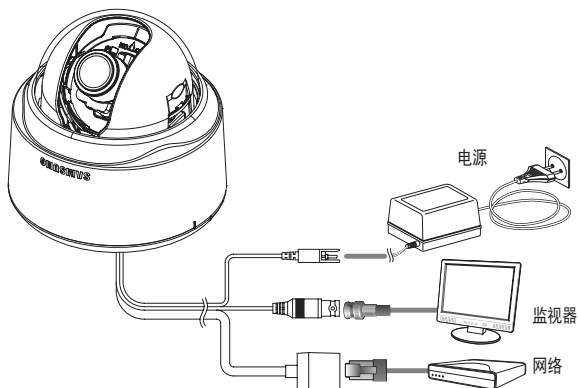
记忆卡的使用

SD 和 SDHC 记忆卡有一个能够禁止写入的开关。将开关拨到锁定位置能够保证记忆卡中的数据不会因意外删除,但同时,您也无法向其中写入数据。

❖ 记忆卡组件



与其他设备连接



电源

将电源适配器连接到电源输入端口。



- 在连接电源线时，一定不要弄反极性。
您也可以使用具有 PoE（以太网供电）功能的路由器为摄像机供电。

连接至监视器

将摄像机的 [V_OUT] 端口连接至监视器的视频输入端口。

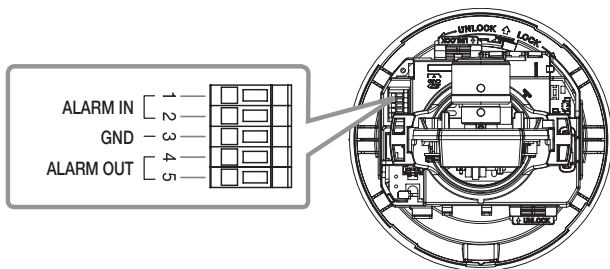
网络连接

网络网电缆连接到本地网络或互联网。

安装与连接

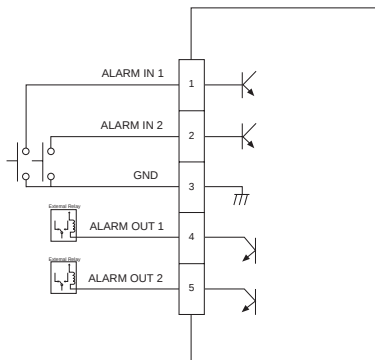
连接到 I/O 端口盒

将警报 I/O 电缆连接到内部端口盒的相应端口。



- ALARM IN 1,2 : 用于连接警报输入信号。
- GND : 用于连接地线。
- ALARM OUT 1,2 : 用于连接警报输出信号。

警报 I/O 接线图



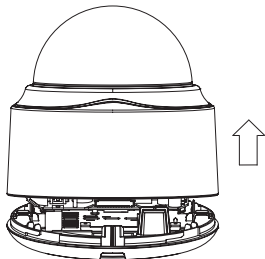
安装前注意事项

安装之前,请确保阅读下列说明

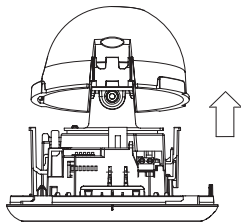
- 选择至少可承受摄像机重量 5 倍力度的安装点(天花板或墙壁)。
- 破损或脱皮电缆可能会损坏产品或引起火灾。
- 为安全起见,让其他人远离安装地点。将个人所有物放在安装点一侧,以防万一。

安装摄像机

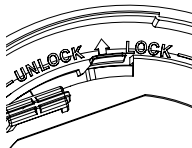
1. 按住底部锁定杆,同时用另一只手取下护盖。
取下护盖后会露出主设备和内部护盖。



2. 若要固定摄像机位置,可按住内部护盖的任一挂钩并将其向上提起。

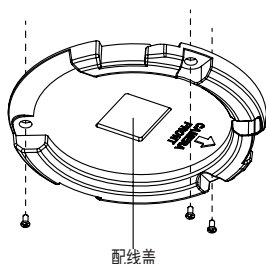


3. 在以 <UNLOCK> 方向旋转主设备的同时按出释放锁,即可取下支架。
如果这样取不下来,可通过使用支架底部的孔以 <LOCK> 方向转动支架。



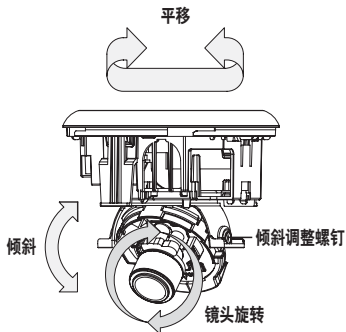
安装与连接

4. 使用提供的螺钉将支架固定到所需的位置（天花板或墙壁）。
 - 确保支架上的 **<CAMERA FRONT>** 标签朝着摄像机监视的方向。



5. 整齐排放通过支架到天花板或墙壁的电缆。
如果在天花板上钻孔以配线，请用力按以移除盖子并连接防尘板，然后通过板排放电缆。如果要不钻孔就排放电缆，请使用与 **<CAMERA FRONT>** 标签侧的相对的空白区域来进行配线。
6. 将主设备安装在支架上。
使主设备的标志孔与支架的 **<CAMERA FRONT>** 标签对准，然后向 **<LOCK>** 方向转动设备。
7. 将镜头调整到所需的方向。
有关调整镜头方向的详细信息，请参阅“调整摄像机的监视方向”。
8. 将内部护盖固定到主设备上。
将内部护盖上侧面挂钩的两个孔固定到主设备的相应孔中，然后按住它直到听到一声咔嗒声。
9. 将护盖固定到主设备上。
将护盖内的突出部分固定到主设备的相应孔中，然后旋转护盖进行固定。

调整摄像机的监视方向



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 220° 度,逆时针限定为 120° 度,总共活动度为 340° 度,超过此限制会被阻滞器停止。

调整倾斜度

将倾斜度调整螺钉拧松并旋转镜头。

调整镜头,使之与地面成 90° 角,然后拧紧倾斜度调整螺钉,固定镜头。

- 要使用 <目标计数> 功能,请垂直调整摄像机镜头,使之朝向地面。
否则可能无法正常使用 <目标计数> 功能。

调整缩放和焦距

观看摄像机的实时视频并根据需要旋转“缩放杆”以放大/缩小物件。

旋转“缩放杆”,直至图像变清晰。

- 有关缩放杆和焦距杆位置的信息,请参阅“组件”部分(第 12 页)。



- 建议将摄像机安装在离地面 2.5~10 米高的位置。

摄像机设置

您可以使用 Web 查看器配置摄像机设置。



有关访问 Web 查看器的信息，请参阅“**网络连接和设置**”。（第 32 页）

如何使用键盘控制器

如果您运行 Web 查看器设置菜单，请按照以下步骤操作。

1. 启动 Web 查看器。
2. 在左侧窗格的 **[摄像机 OSD]** 菜单中，单击 **[菜单]**。
 <菜单> 屏幕将会出现。
3. 单击上/下按钮 (▲▼) 移至所需的项目。
4. 单击四向按钮 (▲▼◀▶) 在菜单项之间导航。
5. 若要更改所选项目的值，请单击左/右按钮 (◀▶)。
6. 单击 。
 将会应用您的更改。



- : 退出菜单设置屏幕。

在退出设置屏幕前，选择 <保存> 以保存设置，或选择 <放弃> 取消设置。

- : 保存设置并返回前一个屏幕。

- : 如果要在指定遮挡区域和加密区域等项目后保存设置，请使用此图标。
一旦保存设置后，即使您在退出时选择 **[放弃]**，更改也将保留。

- : 如果要删除遮挡区域或加密区域等，请使用此图标。
一旦删除设置后，即使您在退出时选择 **[放弃]**，删除仍有效。

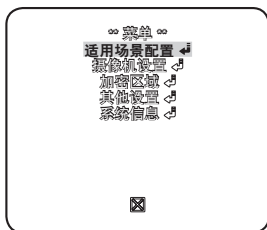
- : 此箭头会出现在包含子项的菜单旁。

对于右边有“*”标记的项目，您可以从“**术语**”获得帮助。（第 74 页）

主菜单

您可以根据需要配置摄像机设置。

- **适用场景配置**
您可以选择适合摄像机安装环境的模式。
- **摄像机设置**
配置摄像机功能和设置。
- **加密区域**
您可以配置隐私设置。
- **其他设置**
您可以配置包括 出厂默认设置在内的更多设置。
- **系统信息**
显示摄像机版本和类型。



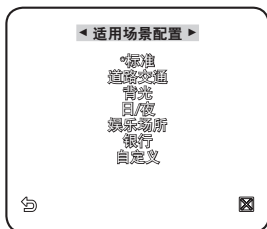
概图

您可从预置模式选择一个适合您的特定安装环境的模式。

在 适用场景配置中选择的每一个项目将影响摄像机的其他所有设置。对于设置, 请参阅“适用场景配置”。(第 73 页)

有关选择和保存各菜单项的信息, 请参阅“如何使用键盘控制器”。(第 22 页)

- **标准**
自动针对正常环境优化摄像机设置。
- **道路交通**
此设置让您分析道路交通情况并一目了然地了解交通信息。
- **背光**
此设置让您在背光强烈的场景中仍可看到鲜明的背景和对象。
- **日/夜**
自动针对白天和夜晚场景优化摄像机设置。
- **娱乐场所**
自动配置设置使您可在稳定的照明环境(比如室内)工作。
- **银行**
自动针对环境优化摄像机设置。
- **自定义**
更改任意适用场景配置设置均将使显示切换至自定义。



摄像机设置

摄像机设置

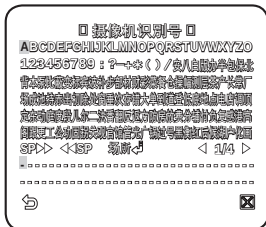
您可以配置摄像机模块的一般设置。
使用四向按钮 (▲▼◀▶) 选择所需的项目。

摄像机识别号

提供在屏幕上显示的摄像机识别号和位置。

有关选择和保存各菜单项的信息,请参阅“如何使用键盘控制器”。(第 22 页)

1. 选择 <摄像机设置> - <摄像机识别号>。
2. 使用四向按钮 (▲▼◀▶) 选择所需的字符。
所选字符将输入到屏幕下方的输入框中。
 - 您最多可以输入 54 个字符,包括字母、数字和特殊字符。
3. 完成后,继续选择 <场所> 以指定摄像机识别号的显示位置。

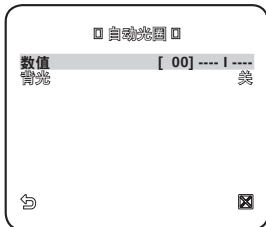


光圈

您可以设置光圈以控制进入摄像机的光线强度。

有关选择和保存各菜单项的信息,请参阅“如何使用键盘控制器”。(第 22 页)

1. 选择 <摄像机设置> - <光圈>。
2. 使用左/右 (◀▶) 按钮选择 <自动光圈>。
 - 数值: 选择整体亮度水平。
 - 背光: 选择 <背光补偿> 或 <宽动态>。
 - 宽动态: 在幅度中指定综合级别,在宽动态水平中指定快门速度,或在白平衡中选择 <室外模式> 或 <室内模式>。
 - 背光补偿: 通过指定 <大小> 和 <位置> 设置 <背光补偿> 区域。



- 如果将光圈设置为 <自动光圈>,在调节 AE 和快门速度时固定光圈是您的优先选择。

移动

可指定 自动增益水平以控制摄像机移动。

如果要监视在低对比度场景中快速移动的对象,请选择 **很快**,如果要在同样条件下监视移动缓慢的无生命对象可选择 **很慢**。

当日/夜设置为自动时,<移动> 菜单将不可用。

数字降噪

降低屏幕上的噪声。此功能在出现杂乱线条的屏幕上尤其有用。

将其设置为 <用户> 可指定水平。

高速快门

快门菜单用于设定固定快速电子快门或自动快速电子快门。

低速快门

如果视频信号的亮度太低,将激活低速快门功能。

低速快门可以收集单个最大帧率以调节设置。

防闪烁

如果设置为 <开>,则快门速度将固定为 1/100 秒。这可防止可能会由垂直同步频率与光源的闪烁频率不相符而引起的屏幕变形。

- 如果速度快门设置为 自动、固定、外部模式/低速快门设置为固定/自动增益设置为固定,则将禁用 <数字稳定> 菜单。

暗区补偿

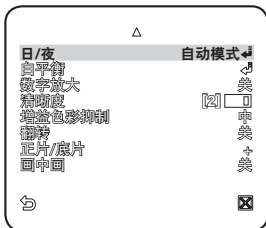
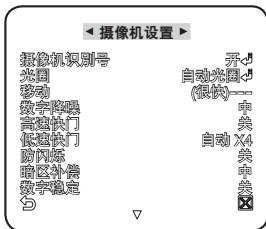
这可纠正不同场景的亮度差异以得到最佳可见度。
此值越高,纠正效果越明显。

数字稳定

自动补偿屏幕上发生的闪烁。

如果设置为 <开>,图像将使用数字变焦放大到补偿区域大小。

- 如果将数字稳定设置为开,则会根据数字放大因数放大补偿区域。
如果您将数码变焦系数大于扩大变焦因素补偿,数字稳定功能将被取消。



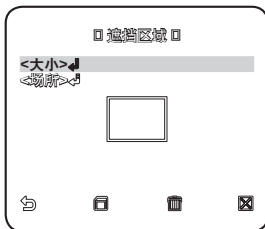
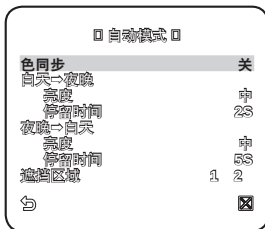
摄像机设置

日/夜

可根据场景指定录像模式。

有关选择和保存各菜单项的信息,请参阅“如何使用键盘控制器”。(第 22 页)

1. 选择 <摄像机设置> - <日/夜>。
2. 根据照明环境选择一种屏幕过渡模式并设置适当的选项。
 - 白天: 固定为白天模式, 无论场景。
 - 夜晚: 固定为夜晚模式, 无论场景。
如果“色同步”设置为 <开>, 色同步信号将会输出。
 - 自动: 根据照明环境, 将自动从白天切换至夜晚模式, 或反之。
 - 白天→夜晚/夜晚→白天: 如果设置为 <自动>, 您即可指定在“白天”与“夜晚”之间触发模式切换的亮度水平, 以及时间间隔。
 - 遮挡区域: 如果在夜晚场景中存在一个高亮点光源, 可按需要指定大小和位置。
夜晚场景中的任何过亮区域将被遮挡。

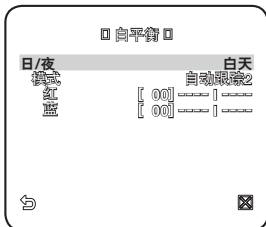


白平衡

如果需要调整屏幕亮度,请使用白平衡功能。

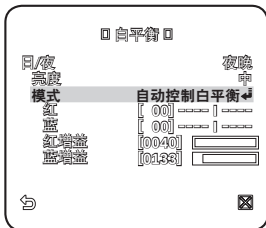
有关选择和保存各菜单项的信息,请参阅“如何使用键盘控制器”。(第 22 页)

1. 选择 <摄像机设置> - <白平衡>。
2. 选择设置平衡的一种模式。
 - 白天: 可设置白天模式下的红和蓝值。
 - 夜晚: 可根据环境照明调整 <白平衡>。



3. 根据制定的录像模式, 选择一种白平衡模式并选择必要的选项。

- 亮度: 指定触发从白天模式切换到夜晚模式的亮度水平。
- 模式: 根据选择的模式, 您可以调整红和蓝颜色值。
 - 红: 调整红色的强度。
 - 蓝: 调整蓝色的强度。
 - 红增益/蓝增益: 手动自动当前色温。



- 只能在自动控制白平衡模式中设置红增益和蓝增益的值。

数字放大

可以设置数字缩放因数和位置。

定义缩放因数和位置后,数字放大功能将开始工作。

- 如果数字变焦系数大于实际补偿放大系数, 数字稳定功能将被禁用。

清晰度

您可以分别调节垂直和水平清晰度。

摄像机设置

增益色彩抑制

这将会根据自动增益值调整颜色方案。

翻转

这会将信号从左向右、从上到下或操作组合进行翻转。

正片/底片

这可将视频亮度信号显示为普通或翻转。

画中画

可在同一个屏幕上与主图像一起显示子图像。

- 如果设置了多个加密区域并且将隐私设置设置为开，将会取消激活画中画功能。

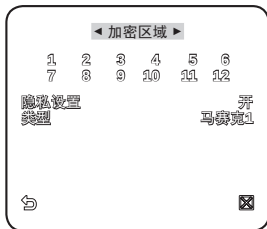
加密区域

可设置最多 12 个加密区域,为保护某些对象的隐私在录像时将隐藏这些区域。

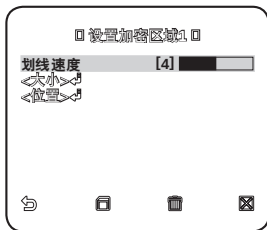
有关选择和保存各菜单项的信息,请参阅“**如何使用键盘控制器**”。(第 22 页)

区域设置

1. 选择 <主菜单> - <加密区域>。
2. 使用四向按钮 (▲▼◀▶) 选择所需的号码。
区域设置屏幕将会出现。



3. 选择 <划线速度>。
指定位置设置的像素单位水平。
4. 选择 <大小>。
您将会在屏幕上看到点。
5. 使用四向按钮 (▲▼◀▶) 指定四个点中每个点的位置。
6. 选择 <位置>, 并使用四向按钮 (▲▼◀▶) 指定四个点中每个点的位置。
7. 保存更改, 移至下一个屏幕, 选择 <类型>。
选择 <颜色>, 然后选取所需的颜色。



- 设置一个或多个加密区域并启用隐私功能将禁用画中画功能。

摄像机设置

其他

您可以重置摄像机或选择 OSD 字体颜色以适合您的偏好。

有关选择和保存各菜单项的信息,请参阅“**如何使用键盘控制器**”。(第 22 页)

出厂默认值

1. 选择 <主菜单> - <其他设置> - <出厂默认值>。
出厂默认值设置屏幕将会出现。
2. 选择 <成功>。
所有设置均将还原为出厂默认设置。
但是, 将不会恢复语言设置。



字体颜色

您可以设置用户界面的字体颜色。

系统信息

您可以检查系统信息。

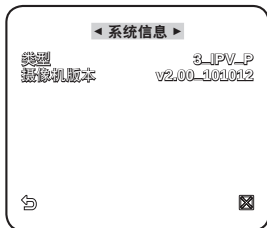
有关选择和保存各菜单项的信息,请参阅“[如何使用键盘控制器](#)”。(第 22 页)

1. 选择 <主菜单> - <系统信息>

2. 此时将显示当前系统信息。



■ 摄像机类型可能会有不同,取决于视频信号。



网络连接和设置

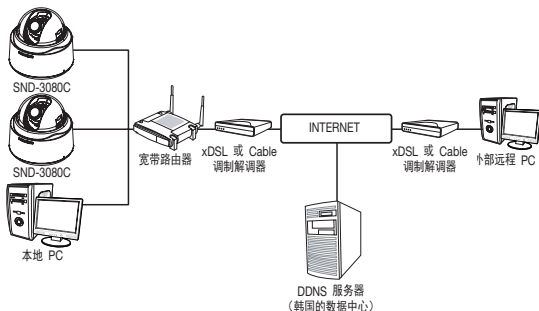
可根据您的网络配置来设置网络的设定。



- 在安装此程序之前或者使用此程序时，请访问 Samsung 网站 www.samsungsecurity.com 并下载和升级所提供的最新软件版本。

将摄像头与使用 XDSL/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：<Network Neighborhood> → <Properties> → <Local Area Connection> → <Properties> → <General> → <Internet Protocol (TCP/IP)> → <Properties> → <Obtain an IP address automatically> 或 <Use the following IP address>.
- 若您选择的是<Use the following IP address>，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
子掩网码：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
子掩网码：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
 子掩网码: 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。

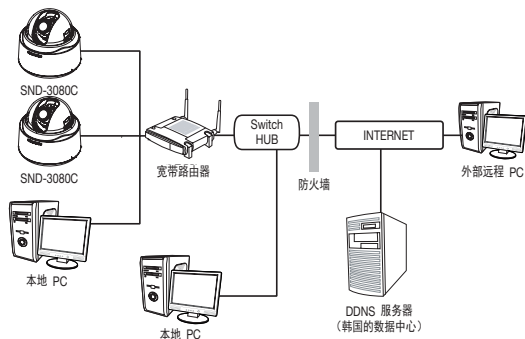
检查 宽带路由器是否正确地与 xDSL/Cable 调制解调器连接

在 宽带路由器的设置菜单中选择 <Status>

- 若正确连接, 会显示 ISP 提供的 <IP Address>、<Subnet Mask>和<Gateway>。请记住这些值, 因为外部远程计算机的 宽带路由器需要这些值来连接摄像头。但请注意 ISP 对 <IP Address>、<Subnet Mask>和<Gateway>的设置进行定期更改
- 若 宽带路由器未正确连接, 按[Connect]按钮以尝试连接, 或检查 宽带路由器的设置是否正确。

将摄像头与局域网的 宽带路由器连接

用于如企业办公室、建筑、公共写字楼和工厂等大型网络环境。



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 : <Network Neighborhood> → <Properties> → <Local Area Connection> → <Properties> → <General> → <Internet Protocol (TCP/IP)> → <Properties> → <Obtain an IP address automatically> 或 <Use the following IP address>.

网络连接和设置

- 若您选择的是<Use the following IP address>, 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
子掩网码: 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
子掩网码: 255.255.255.0
默认网关: 192.168.0.1

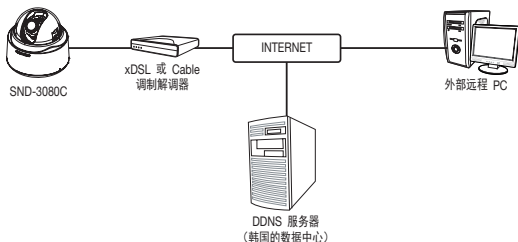
例 3) 若 宽带路由器的地址 (LAN IP) 为 192.168.xxx.1

IP 地址: 192.168.xxx.100
子掩网码: 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。

将摄像头与基于 DHCP 的 XDSL/CABLE 调制解调器直接连接



设置 宽带路由器

即可启用使用 DHCP 的调制解调器。

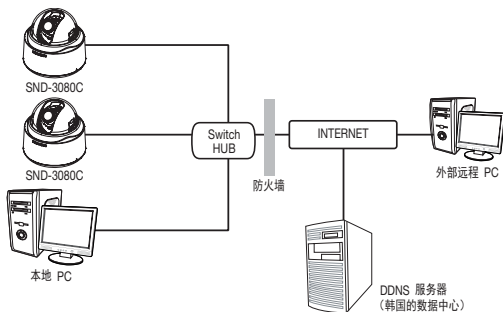
1. 设置静态或动态 IP 地址。(第 37~40 页)
2. 启动与 宽带路由器连接的本地 PC 上的浏览器。
3. 在浏览器的地址栏中输入 宽带路由器的地址。
例) <http://192.168.1.1>, <http://192.168.0.1> 或 <http://192.168.xxx.1>
 - 对于 DDNS URL 地址, 请参阅“检查 DDNS 地址”。(第 44 页)

4. 当宽带路由器连接后会出现登录窗口并提示输入密码。
 - 登录 IP 和密码请参见 宽带路由器的文档。
5. 在完成后可看到 宽带路由器的设置窗口。在设置菜单 Internet 连接类型，选择“**自动配置 DHCP**”
 - 有关或 Internet 连接类型 DHCP 选择，参见 宽带路由器的文档。
6. 完成后，单击 [Save] 或 [Apply] 按钮保存设置。

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

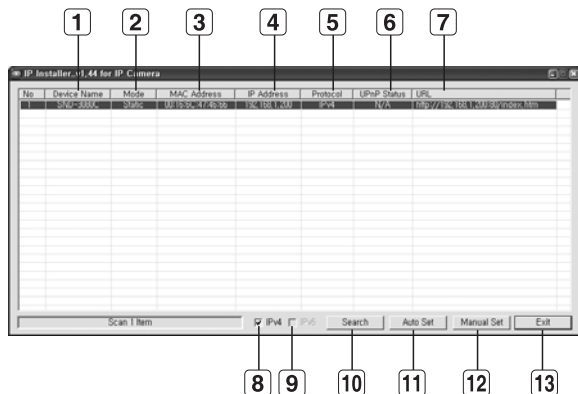
1. 启动本地 PC 上的网络浏览器。
2. 在浏览器的地址栏中输入 IP 地址。



- 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。

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 Mode	对当前网络连接状态显示 <Static> 或 <Dynamic>。
3 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。
4 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。 出厂默认设置为“192.168.1.200”。
5 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”。
6 UPnP Status	此功能当前不可用。

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。
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> 将自动为您配置网络设置。
12 Manual Set	您应该手动配置网络设置。
13 Exit	退出 IP Installer 程序。

静态 IP 设置

手动网络设置

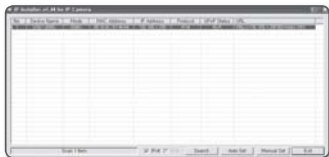
运行 <IP Installer.exe> 以显示摄像机搜索列表。

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



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

- 从搜索列表选择一个摄像机。
找到摄像机后面标签上的 MAC
(以太网) 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。
将显示摄像机 <IP Address>、
<Subnet Mask>、<Gateway> 和 <HTTP Port> 的默认值。
默认 <Password> 为 “4321”。

- 在 <Address> 窗格中, 提供必需的信息。

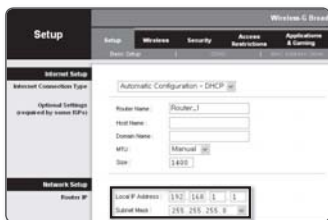
- MAC (Ethernet) Address: 将自动设置适用摄像机的 MAC (以太网) 地址, 因此您无需手动输入。



网络连接和设置

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 <Subnet Mask> 将是摄像机的 <Subnet Mask>。
- Gateway : 宽带路由器的 <Local IP Address> 将是摄像机的 <Gateway>。



如果不使用 宽带路由器 :

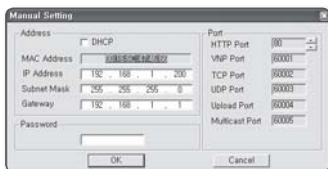
若要设置 <IP Address>、<Subnet Mask> 和 <Gateway>, 请联系网络管理员。



- Device、TCP、UDP、Upload 和 Multicast 的端口值可以手动更改, 并将根据 HTTP 端口值调整。

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。
使用旋钮更改 HTTP 端口值。
端口的起始值是 80, 并以 6 为基数增加, 如 10000、10006、10012。
- VNP Port : 用于控制视频信号传输, 默认值为 60001(TCP)。
- TCP Port : 使用 TCP 协议的信号传输, 默认值为 60002(TCP)。
- UDP Port : 使用 UDP 单播方式的信号传输端口, 默认值为 60003(UDP)。
- Upload Port : 用于升级软件固件, 默认值为 60004(TCP)。
- Multicast Port : 使用 UDP 多播方式的信号传输端口, 默认值为 60005(UDP)。



5. 输入密码。

这是访问摄像机的“admin”用户的登录密码。
默认密码为“4321”。

6. 单击 [成功]。

将完成手动网络设置。

7. 在完成包括 <IP> 的手动设置后，摄像机将重新启动。

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。

类别		摄像机 1	摄像机 2
IP 相关设置	IP Address	192.168.1.200	192.168.1.201
	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	80	10000
	VNP Port	60001	10001
	TCP Port	60002	10002
	UDP Port	60003	10003
	Upload Port	60004	10004
	Multicast Port	60005	10005



- 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://192.168.1.201:10000

自动网络设置

运行 <IP Installer.exe> 以显示摄像机搜索列表。

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



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

1. 从搜索列表中选择一台摄像机。

找到摄像机后面标签上的 MAC（以太网）地址。

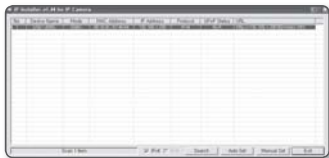
将激活 [Auto Set] 和 [Manual Set] 按钮。

2. 单击 [Auto Set]。

Auto Setting 对话框将会出现。

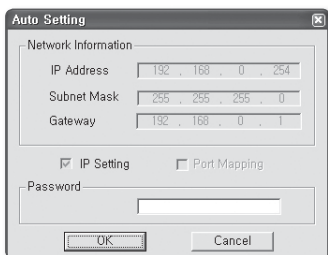
将自动设置 <IP Address>、

<Subnet Mask> 和 <Gateway>。



网络连接和设置

3. 输入密码。
这是访问摄像机的“admin”用户的登录密码。
默认密码为“4321”。
4. 单击 [OK]。
将完成自动网络设置。
5. 摄像机将自动完成网络设置，然后重新启动。



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到 xDSL 或有线电视网调制解调器
 - 如果 IP 由内部 DHCP 服务器通过 LAN 分配

检查动态 IP

1. 从本地 PC，运行 <IP Installer> 以显示分配了 <Dynamic IP> 的摄像机列表。
2. 从列表中选择摄像机，然后单击 [Manual Set] 检查摄像机的 <Dynamic IP>。
如果取消选取 <DHCP>，您即可将 <IP> 或 <Port> 更改为 <STATIC>。



端口范围前移 (端口映射) 设置

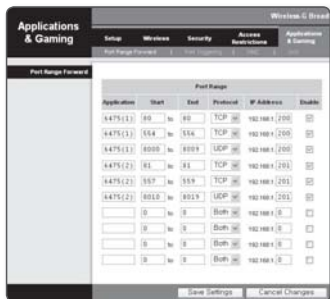
如果您安装了连接摄像机的 宽带路由器,就必须设置在 宽带路由器上前移的端口范围,以便 远程 PC 可以其中的摄像机。

手动端口范围前移

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设置菜单的 **<基本> - <IP>** 中指定的端口号相符。
3. 完成后, 单击 **[Save Settings]**。
将保存设置。



网络连接和设置

从共享的本地 PC 连接到摄像机

1. 启动 <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

由于远程 PC 无法直接访问 <IP Installer>, 您应该使用摄像机的 DDNS URL 访问 宽带路由器网络中的摄像机。

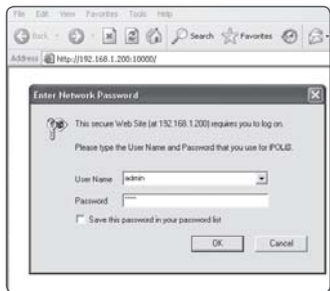
1. 您应该设置 宽带路由器端口范围前移，然后才能访问 宽带路由器网络中的摄像机。
2. 从远程 PC 启动互联网浏览器，并在地址栏中键入摄像机的 DDNS URL 地址，或宽带路由器的 IP 地址。
例) <http://mfffe42.websamsung.net>
 - 对于 DDNS URL 地址，请参阅“[检查 DDNS 地址](#)”。（第 44 页）

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) : 192.168.1.200
→ http://192.168.1.200
- 应该会出现登录对话框。
• IP 地址 (IPv6) : 2001:230:abcd:ffff:0000:0000:ffff:1111
→ http://[2001:230:abcd:ffff:0000:0000:ffff:1111]



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 : 192.168.1.200:Port number(10000) → http://192.168.1.200:10000
- 应该会出现登录对话框。

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://mfffe42.websamsung.net
- 应该会出现登录对话框。

通过 URL 连接(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 DDNS URL 和 HTTP 端口号。
例) URL 地址 : http://mfffe42.websamsung.net:Port number(10000)
→ http://mfffe42.websamsung.net:10000
- 应该会出现登录对话框。

web 查看器

检查 DDNS 地址

DDNS 地址包括: <以下其中一个小写字母: c、m、p> + <MAC(以太网)地址后 6 位> + <websamsung.net>

如果 MAC(以太网)地址前 6 位是 <00:00:f0>, 小写字母将是 <c>, 或者如果 MAC(以太网)地址前 6 位是 <00:16:6c> 或 <00:68:36>, 则小写字母将分别是 <m> 或 <p>。

例) - 如果 MAC(以太网)地址是 00:00:f0:ff:fe:42: c + fffe42 + websamsung.net = cffe42.websamsung.net

- 如果 MAC(以太网)地址是 00:16:6c:ff:fe:42: m + fffe42 + websamsung.net = mffe42.websamsung.net

- 如果 MAC(以太网)地址是 00:68:36:ff:fe:42: p + fffe42 + websamsung.net = pffe42.websamsung.net



- 上述地址只是示例; 不要使用上述任何地址进行连接。

登录

默认的用户 ID 是“admin”, 默认的密码是“4321”。

1. 在 <User Name> 输入框中输入“admin”。
2. 在 <Password> 输入框中输入“4321”。如果更改了密码, 请输入更改的密码。
3. 单击 [OK]。如果已成功登录, 您将会看到 Live Viewer 屏幕。



- 为安全起见, 请确保在 <基本> - <用户> 中更改了密码。管理员 ID, 即“admin”被固定, 无法更改。

- 如果您在完成输入之后选取“Save this password in your password list”选项, 则从下次起在不提示输入登录信息时即可自动登录。



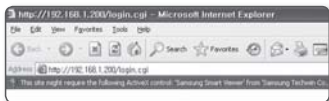
- 为此, 您的电脑需要安装 DirectX 8.1 或更高版本。
您可从 <http://www.microsoft.com/download> 免费下载最新的 DirectX。
如果您使用 Internet Explorer 7.0 或 8.0 作为默认的 Web 浏览器, 就可以使用 100% 的屏幕比查看最佳图像质量。降低比率可能会切掉边框上的图像。

安装 ACTIVEX

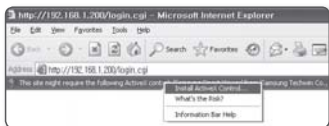
如果首次连接到摄像机,您将会看到安装消息。然后,安装所需的 ActiveX 以访问摄像机并在摄像机内实时控制视频。

对于 Windows XP Service Pack 2 用户

1. 单击在首次访问摄像机时弹出的安装消息。



2. 单击 <Install ActiveX control...>。



3. 安全性警告弹出窗口将会出现, 单击 [Install]。



4. 访问摄像机后如果已正确安装了所需的 ActiveX, 应该会出现现场屏幕。

- 对于正常安装, 请按以下方式设置拦截弹出窗口设置:
Internet Explorer → 工具 → 拦截弹出窗口 → 总是允许从当前网站弹出窗口 (A)



web 查看器

使用现场屏幕



项目	说明
1 SD 搜索	移动到屏幕从 SD 卡搜索事件图像。
2 设置	移至设置屏幕。
3 简介	您可以检查固件版本、序列号和制造商信息。
4 重置警报	重置警报图标。(警报和移动图标消失。)
5 捕捉	以 .jpeg 或 .bmp 格式将快照另存为图像文件。
6 打印	打印输出当前图像。
7 录制	以 .avi 格式将快照另存为视频文件。
8 全屏	全屏显示现场屏幕。
9 视频格式	您可以设置视频文件的视频格式 (MJPEG, H.264/MPEG4)。上下文菜单因在活动查看器 <选择 H.264 & MPEG4 视频> 中的编解码器而有不同。
10 警报输出	开: 激活指定的警报输出端口。 关: 关闭指定的警报输出端口。 脉冲: 以取消激活之前指定的同样多时间激活警报输出端口。

项目	说明
11 摄像机 OSD	用于检索和自定义摄像机设置菜单。有关选择和保存各菜单项的信息,请参阅“如何使用键盘控制器”。(第 22 页)
12 目标计数	显示按 <目标计数> 中的 <设置规则> 指定的规则汇总的事件次数。
13 查看器屏幕	显示屏幕上的现场视频。

备份

您可以捕捉、打印输出和保存指定路径中的快照。

捕捉快照

- 在场景上单击  进行捕捉。
捕捉对话框应该会出现。
- 单击 **[确认]**。屏幕截图会保存在指定的路径中。

- 默认的文件路径

- Windows XP : C:\Program Files\
Samsung\SND-3080C\SnapShot\
Live

如果您想更改路径, 请单击 **[设置路径 (...)]** 并指定路径。

- Windows Vista, Windows 7 : C:\users\[UserID]\Documents\Samsung\
SND-3080C\SnapShot\Live
在 Windows Vista, Windows 7 系统中, 要保存的路径将被固定。

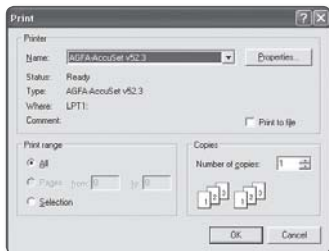
- 屏幕截图文件将会自动命名, 格式为 <IP address_Port number_YYYYMMDD_hhmmss_index>。

例) 192.168.1.200_60001_20101012_170331_00



打印输出屏幕截图

- 在场景上单击  进行打印。
打印设置对话框将会出现。
- 指定已连接的打印机名称, 然后单击 **[OK]**。



web 查看器

录制视频

1. 在场景上单击 [] 进行录制。
2. 您将会看到保存为 AVI 对话框；提供必需的信息。
 - 保存路径：您可以更改默认的保存路径。
 - 文件名：您可以更改默认的文件名。
 - 硬盘最小剩余空间：如果硬盘上的可用空间小于录制的空间，录制将被强行结束。
3. 单击 [确认]。
录制将会从在查看器屏幕上显示 <REC> 开始。视频文件将保存在指定的路径中。
4. 如果您想退出录制，可再次单击 []。

- 默认的文件路径

- Windows XP : C:\Program Files\
Samsung\SND-3080C\VideoClip\
Live
如果您想更改路径，请单击 [设置
路径 (...)] 并指定路径。

- Windows Vista, Windows 7 : C:\users\[UserID]\Documents\Samsung\
SND-3080C\VideoClip\Live
在 Windows Vista, Windows 7 系统中，要保存的路径将被固定。

- 屏幕截图文件将会自动命名，格式为 <IP address_Port number_YYYYMMDD_hh
mmss_index>。

例) 192.168.1.200_60001_20101012_170406_00

- 如果您想播放 .avi 文件，则必须在系统上安装相应的 DivX 编解码器。
您可从 <http://sourceforge.net/projects/ffdshow/> 免费下载 DivX。
- 必须具有用于 MPEG4 的特定编解码器才能播放 MPEG4 格式的视频。
可从以下网址下载用于 MPEG4 视频的编解码器 www.samsungsecurity.com



查看目标计数

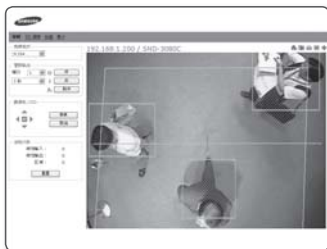
1. 转至 <设置> - <目标计数>，然后选择 <启用> 以设置事件规则。

- 有关详细信息，请参阅“设置目标计数功能”（第 66 页）。

2. 在 <视频格式> 处选择 <MJPEG>，然后按下浏览器中的 [刷新] 按钮。

3. 查看 <目标计数> 中显示的线交叉或区域面积的计数结果。

- 线性输入：如果从上（左）到下（右）画一条线以设置线交叉，将显示从左（下）到右（上）穿过这条直线的目标数。或者如果从下（右）到上（左）画一条线以设置线交叉，将显示从右（上）到左（下）穿过这条直线的目标数。
- 线性输出：如果从上（左）到下（右）画一条线以设置线交叉，将显示从右（上）到左（下）穿过这条直线的目标数。或者如果从下（右）到上（左）画一条线以设置线交叉，将显示从左（下）到右（上）穿过这条直线的目标数。
- 区域：显示在区域面积配置屏幕中绘制的多边形中出现的目标数。



- <线性输入> 和 <线性输出> 显示重置前的累计数据。当累计数据量达到 10,000,000 后，将重置为 0。

- <区域计数> 显示 <区域计数时间间隔> 期间的平均数据。

要重置目标计数，请单击 <重置> 按钮。

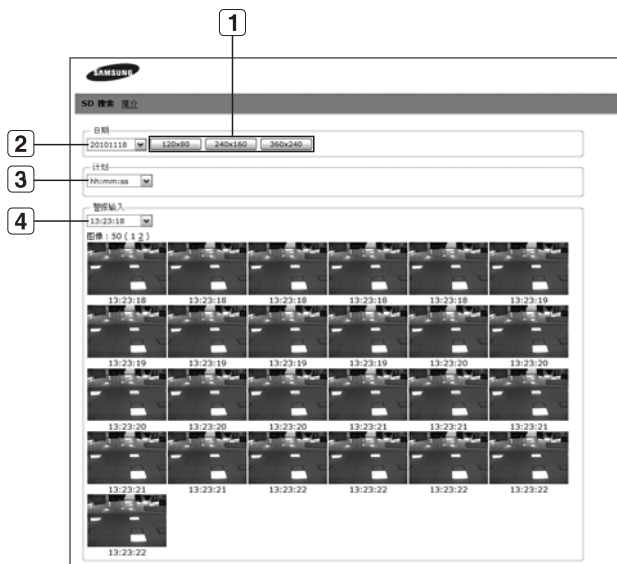
<线性输入> 和 <线性输出> 中的数字将重置为 0。

<区域> 中显示的数字将按目标计数配置中选择的每个目标计数时间间隔更新。

web 查看器

使用 SD 搜索查看器屏幕

1. 在现场屏幕中，单击 <SD 搜索> 选项卡。
2. SD 搜索屏幕 将会出现。



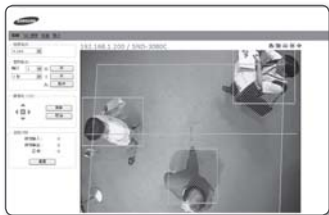
名称	功能与描述
1 图像尺寸	缩略图图像根据所选的大小显示。
2 日期	您可以选择所需的日期来搜索发生的事件。
3 计划	您可以选择所需的时间来搜索计划事件。
4 报警输入	您可以选择所需的时间来搜索报警事件。

设置屏幕

访问设置屏幕

您可以配置默认的设置、系统、重叠、事件及网络相关设置,并根据需要进行更改。

1. 在现场屏幕中, 单击 <设置>选项卡。



2. 设置屏幕将会出现。



设置屏幕

默认设置

配置视频设置

您可以设置视频分辨率和质量,并选择所需的编解码器。

1. 选择 <基本> - <视频>。

视频设置屏幕将会出现。

- 亮度: 在 1 与 100 之间调整屏幕亮度。
- 对比度: 在 1 与 100 之间调整对比度。
- 解像度: 设置 MPEG4、H.264 和 MPEG 文件的视频大小。
 - NTSC: 4CIF(704x480), VGA(640X480), CIF(352X240)
 - PAL: 4CIF(704x576), VGA(640X480), CIF(352X288)
- 质量: 在 1 与 10 之间调整图片质量。
- 帧率:
 - NTSC: 从 30 fps、15 fps、8 fps、3 fps 和 1 fps 中选择一项。
 - PAL: 从 25 fps、13 fps、6 fps、3 fps 和 1 fps 中选择一项。
- 比特率控制*: 为压缩方式选择 CBR (恒定比特率) 或 VBR (可变比特率)。
 - 如果选择 VBR, 您就无法设置目标比特率。
- 目标比特率: 以指定的比特率传输视频信号。
- 压缩: 以 5 为基准从 5 到 100 调整压缩率。
- 编码优先级: 将视频传输方法设置为帧率或质量。
- GOP* 大小: 在 5 至 15 之间选择 GOP 大小。
- 解决: 这将软化微距块之间的边缘。
- 消除交错信号: 您可以设置网格噪音降低功能。
 - 此功能仅当 MPEG4 视频的分辨率为 4CIF 时才可以设置。



- 概图：为 H.264 靠模方法选择基线或主。
- 熵编码：减少因编码引起的压缩损失。
- 预计动作：通过判断移动向量估计像素的移动。



- 如果您将配置文件设置为基线，则熵编码仅限 CAVLC* 可用；如果将其设置为主，则熵编码对 CAVLC* 和 CABAC* 均可用。
- 如果您将宽动态设置为<关闭>，或 MPEG4 视频解析度不是 4CIF，则将不能使用 MPEG4 编解码器去隔行功能。

2. 完成后，单击 [应用]。
将保存设置。

配置 IP 设置

1. 选择 <基本> - <IP>。

IP 设置窗口将会出现。

- IP 配置：为摄像机设置 IP 和端口设置。
 - IP 类型：在 <静态 IP>、<动态 IP> 和 <PPPoE IP> 中选择一个。
 - 如果选择 <PPPoE IP>，您可以提供可选 ADSL IP 和密码。但是，VNP 和 RTP 的多播项目（多点广播地址、端口、TTL）将会消失。
 - MAC 地址：显示以太网 MAC 地址。这常用来创建 DDNS 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>。
 - DNS 服务器：显示 DNS（域名服务）服务器地址。
 - HTTP Web 服务器端口：用于通过 Web 浏览器访问摄像机的 HTTP 端口。默认值是 80(TCP)。
 - 上载端口 (TCP)：用于升级软件软固件，默认值为 60004(TCP)。
- IPv6 配置：获取访问 IPv6 网络的 IPv6 地址。

设置屏幕

- VNP 配置：设置用于根据 Samsung 协议传输视频信号的端口。
 - 设备端口 (TCP)：用于控制视频信号传输，默认值为 60001(TCP)。
 - TCP 流端口：使用 TCP 协议的视频信号传输，默认值为 60002(TCP)。
 - UDP 流端口：用于根据 UDP 单播协议传输视频信号的 UDP 端口。默认值是 60003(UDP)。
 - 组播地址：用于根据 UDP 多播协议传输视频信号的 IP 地址。默认值为 225.128.1.128，但是，如果您想更改此地址，可在 224.0.0.0 到 239.255.255.255 范围内指定。
 - 组播端口：用于根据 UDP 多播协议传输视频信号的 UDP 端口。默认值是 60005(UDP)。
 - TTL*：为 VNP 数据包设置 TTL。默认值为 63，但是，如果您想更改此值，可在 0 到 255 范围内指定。
- RTP 配置：您可以设置 RTP 协议。
 - RTSP 端口：您可设置 RTSP 端口。
 - 流端口：用于根据 RTP 协议传输视频信号。默认范围是 61000 到 61999。
 - 组播地址：用于根据 RTP 协议传输视频信号的 IP 地址。
 - 组播端口：用于根据 RTP 协议多播传输视频信号。
 - TTL*：可为 RTP 数据包设置 TTL。

2. 完成后，单击 [应用]。

将保存您的设置并重新启动系统。
将关闭当前打开的 Web 浏览器。



- 如果宽带路由器已连接多台摄像机，您应为每台分别配置不同的 IP 和端口设置。

设置用户帐户

1. 单击 <基本> - <用户>。

用户设置窗口将会出现。

- 登录验证：您可以设置用户验证的登录。
 - 如果您选择 <启用>，用户应该完成登录验证；如果选择 <禁用>，每个用户都可以无需验证访问系统，只要有普通用户权限即可。
 - 完成后，单击 [应用]。
- 用户登录 ID/密码列表：显示可访问的用户 ID、密码及分级列表。
 - 您最多可以添加 10 个用户。
 - 管理员 ID 是“admin”。
 - 管理员 ID 的密码可以更改，但是无法添加或删除。



2. 完成后，单击 [应用]。

将保存设置。

将关闭当前打开的 Web 浏览器。

用户注册

1. 在用户设置窗口中，单击 [插入]。

注册用户窗口将会出现。

2. 分别提供 <用户 ID>、<密码> 和 <确认密码>。您可以分别对用户 ID 和密码最多输入 9 个字母数字字符或特殊字符（要排除一些）。
3. 选择用户级别。
对新用户的权限选择 <操作员> 或 <用户>。
4. 单击 [应用]。
即完成用户注册。



- 现有的用户 ID 无法重复新增。
- 无法注册 admin ID 或 guest ID。

设置屏幕

编辑注册的用户账户

1. 在“用户”设置窗口中，选择要更改的用户 ID。
2. 在用户设置窗口中，单击 **[修改]**。
修改用户窗口将会出现。
3. 根据需要更改 **<用户 ID>**、**<密码>**、**<确认密码>** 和 **<级别>**。
4. 单击 **[应用]**。
将更改选择的用户 ID。



修改用户

用户 ID

密码

确认密码

级别

删除用户 ID

1. 在用户设置窗口中，选择要删除的用户 ID。
2. 在用户设置窗口中，单击 **[删除]**。
将删除选择的用户 ID。



■ 关于用户权限

管理员：可以使用所有功能（更改/控制设置）。
操作员：只能使用在 Live Viewer 中可用的功能。
用户：只能在 Live Viewer 中查看视频。

设置显示语言

1. 单击 **<基本>** - **<语言>**。
语言设置窗口将会出现。您可以从 7 种语言（英语/韩语/中文/法语/意大利语/西班牙语/德语）中选择一种。
2. 完成后，单击 **[应用]**。
将会应用选择的语言。



语言

选择语言

- ☐ English
- ☐ 한국어
- ☒ 日本語
- ☐ Français
- ☐ Italiano
- ☐ Español
- ☐ Deutsch

设置日期/时间

您可以从 NTP 服务器或 PC 获得当前系统时间,用于时间设置。

1. 选择 **<系统> - <日期&时间>**。
日期&时间设置窗口将会出现。
2. 如果您选择手动, 请手动输入日期和时间。
将保存设置。
 - 当前系统时间: 将应用在系统时间设置中指定的时间。
 - 系统时间设置: 您可以与 NTP 服务器(时间服务器)或 PC 同步系统时间, 或者手动指定。



 ■ 您可以指定介于 2000 年 1 月 1 日与 2037 年 12 月 31 日之间的时间。

设置系统时间

1. 在 **<地址>** 中选择所需的地址, 或选择 **<与 PC 查看器同步>**。
2. 如果您选择手动, 请手动输入日期和时间。
3. 单击 **[应用]**。将会应用指定的系统。



-  ■ **<NTP 服务器 IP>** 由公共机构提供, 是随时更改的列表。
- 在本地网络中, 必须手动定义独立的 NTP 服务器。
-  ■ 当前时间可能因计算机区域 (GMT 和 DST) 和国家 (PC 时间配置) 设置而有同。

设置屏幕

检查日志信息

选择 <系统> - <日志>。日志信息列表将会出现。

- **系统日志列表**：显示关于系统更改的日志信息以及时间与 IP 地址。
 - 用户登录：显示目前登录到摄像机的用户。
 - 视频配置更改：显示视频设置更改。
 - 系统时间更改：显示时间更改。
 - 系统已启动：显示打开摄像机的时间。



- 最多可记录 2000 条日志。
如果日志数目大于 2000，
则日志列表最下面的日志将被新日志取代。

系统日志列表		
[第一页] [上一页] 1/67 [下一页] [最后一页]		
时间	项目	IP
2000-01-01 10:02:54	用户登陆	192.168.0.11
2000-01-01 09:57:05	用户登陆	192.168.0.65
2000-01-01 09:54:07	用户登陆	192.168.0.65
2000-01-01 09:42:47	用户登陆	192.168.0.65
2000-01-01 09:25:47	用户登陆	192.168.0.24
2000-01-01 09:22:05	用户登陆	192.168.0.24
2000-01-01 09:10:42	用户登陆	192.168.0.24
2000-01-01 09:06:50	用户登陆	192.168.0.24
2000-01-01 09:05:14	用户登陆	192.168.0.24
2000-01-01 09:04:57	网络连接	192.168.0.205

更新软件

选择 <系统> - <软件更新>。

软件更新窗口将会出现。



如何更新软件

1. 在软件更新窗口中，单击 [Browse...]。
打开对话框将会出现。
2. 选择可更新的文件，并单击 [Open]。
3. 在软件更新窗口中，单击 [安装]。
选择的文件将被解压缩以便开始更新。
完成更新可能需要几分钟时间。



4. 完成软件更新后，将提示您重新启动系统。

5. 单击 **[确定]** 以重新启动系统。

由于当前连接断开，因此您必须再次连接到系统。



- 如果网络断开、电源供应失败或在更新期间 PC 强行操作，则系统根本不会工作。

重置系统

如果系统工作不正常或造成问题，请重新启动或重置系统。

选择 **<系统>** - **<重置>**。

重置窗口将会出现。



- 重新启动：重新启动系统。
- 出厂默认设置：通过以下两个选项将系统设置重置为出厂默认设置：
 - 网络参数之外：重置除网络参数之外的所有设置。
 - 全部：将所有设置恢复为默认值。

此功能与按摄像机内部的 **[RESET]** 按钮功能相同。



- 在系统重置或重新启动后，您应该重试连接到摄像机。
- 等系统完成重新启动可能需要几分钟时间。等待系统完成重新启动后，再重试连接。
- 在执行 **<出厂默认设置>** 后，您必须运行 **<IP Installer.exe>** 程序更改基本的网络设置，如 IP 地址、子网掩码、网关等，然后才能连接到互联网。

设置 HTTPS

1. 选择 **<系统>** - **<HTTPS>**。

HTTPS 设置窗口将会出现。

- 安全连接系统：选择要使用的安全连接系统。若要使用对安全连接系统要求公共证书的安全连接模式，您必须在系统上安装由证书颁发机构颁发的签名证书。



设置屏幕

- 安装公共证书：若要安装摄像机证书，您需要键入证书名称（可能由用户随意分配）、颁发机构颁发的证书文件以及密钥文件。完成后，单击 [安装]。
如果成功安装了证书，将显示用户定义的证书名称。
此外，还会激活上方的 <HTTPS(使用公共证书的安全连接模式)>选项按钮。



- 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。

2. 完成后，单击 [应用]。

Web 查看器将切换到设置安全连接系统。

重叠设置

您可以在屏幕上显示文本。

设置文本

1. 选择 <重叠> - <重叠文本>。

重叠文本设置窗口将会出现。

2. 完成后，单击 [应用]。

将保存设置。

- 重叠文本设置：如果您选择 <禁用>，将不会显示重叠文本；如果选择 <启用>，将在屏幕上显示重叠文本。
- 显示日期：在屏幕底部显示日期信息。
 - 输出格式：选择日期信息的显示格式。
YYYY-MM-DD：年-月-日 / MM-DD-YYYY：月-日-年 / DD-MM-YYYY：日-月-年
- 显示时间：在屏幕底部显示时间信息。
 - 输出格式：选择时间信息的显示格式。
24hr：以 24 小时制显示时间。
12hr：以 12 小时制显示时间。
- 文本颜色：对文本颜色选择黑色或白色。
- 背景颜色：对背景颜色选择黑色或白色。



设置事件传输功能

在出现警报事件时,您可以设置 FTP/电子邮件服务器 (SMTP) 传输在摄像机中存在的警报图像。

选择 **<事件>** - **<传输设置>**。

图像传输设置窗口将会出现。



- 有关商业 SMTP 服务的详细信息,请联系 SMTP 服务提供商。

测试 FTP 传输

单击 **[测试]**。

这将测试是否正确地将图像传输到指定的 FTP 服务器。

在测试 FTP 服务器连接并完成传输时,将显示 **<(已验证)>** 消息。

如果测试失败,您将会看到错误消息。如果出现这种情况,请再次检查 FTP 服务器状态或设置。

- **FTP 传输**: 您可以使用此设置将警报图像传输到 FTP 服务器。如果初始 FTP 服务器设置和连接状态没有验证,将出现 **<(未验证)>** 消息。
 - 使用被动方式: 当被动方式连接由于防火墙或 FTP 服务器设置无法避免时,选择此选项。
 - FTP 服务器地址: 输入警报图像将传输到的 FTP 服务器 IP 地址。

设置屏幕

- 上传路径：您可以指定将警报图像传输到的 FTP 目录的路径。
您可以通过在该字段中键入 </目录名称> 或 <目录名称> 指定路径。
如果没有指定任何内容，路径将默认为 FTP 服务器的根目录。
- 端口：FTP 端口默认为 21。该值可以根据 FTP 服务器设置进行更改。
- 用户 ID：提供访问 FTP 服务器的用户帐户 ID。
- 密码：提供访问 FTP 服务器的用户帐户密码。
- **子邮件 (SMTP) 传输**：您可以使用此设置将警报图像传输到电子邮件服务器。此功能仅适用于 SMTP 电子邮件服务器。
当初始 SMTP 服务器设置和连接没有验证时，将出现 <未验证> 消息。
 - SMTP 服务器地址：输入您在发送电子邮件时使用的 SMTP 服务器地址。
例) 10.240.56.228
 - 端口：输入您在发送电子邮件时使用的端口号。默认值是 25。
 - 用户 ID：提供访问 SMTP 服务器的用户帐户 ID。
 - 密码：提供访问 SMTP 服务器的用户帐户密码。
 - 电子邮件发件人：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 SMTP 服务器分类为垃圾邮件，并且可能不发送。
 - 电子邮件收件人：输入电子邮件收件人的地址。
 - 标题：输入要发送的电子邮件主题。
 - 信息：输入要发送的电子邮件内容。

测试电子邮件传输

单击 **[测试]**。

这将测试是否正确地将图像传输到指定的 SMTP 服务器。

在测试 SMTP 服务器连接并完成传输时，将显示 **<(已验证)>** 消息。

如果测试失败，您将会看到错误消息。

如果出现这种情况，请再次检查 SMTP 服务器状态或设置。



若要设置录制

1. 单击**<事件>** - **<录制设置>**。

录制设置窗口出现。

2. 若要完成设置，单击**[应用]**按钮。
设置已保存。

- SD 卡 : 能够让您验证保存在 SDHC 记忆卡中的数据并格式化记忆卡。可设置自动删除在某个时间段之前已录制的电影剪辑（例如：1 个星期、1 个月或 1 年）。
- 选项 : 决定是否希望接收容量不足警告的电子邮件通知。



设置屏幕

设置警报图像

您可以配置通过 FTP/电子邮件 (SMTP) 发送信息或将录制的内容储存在 SD 内存卡。当发生事件或激活预约传输功能时, 选择传输方式。

1. 选择 <事件> - <警报图像>。

警报图像设置窗口将会出现。

- **传输模式**：从 FTP 传输和电子邮件传输中选择警报图像传输模式。
 - FTP 传输：发送到指定 FTP 地址的图像。
 - 电子邮件传输：发送到指定电子邮件地址的图像。
 - SD 卡录制：将图像保存到 SD 内存卡。



- 如果没有插入 SD 内存卡, 相应的按钮将禁用。在这些情况下, 将 SD 内存卡插入插槽并刷新以启动此按钮。



- 如果在按下按钮时弹出 SD 内存卡, 摄像机将自动重新启动。

- **已传输的图像命名设置**：您可以设置在触发警报时或计划传输过程中发送的警报图像的文件名。
- **预先/延迟警报图像**：您可以设置保存之前或延迟警报图像。
 - 图像编号：每秒帧率可以是 1、2、3 和 5 之一。
 - 预先警报持续时间：预先警报持续时间可以是 5 秒、10 秒、15 秒和 30 秒之一。在触发警报之前, 您可以发送最长 30 秒的预先警报图像。(最长时间取决于帧率)
 - 延迟警报持续时间：延迟警报持续时间可以是 5 秒、10 秒、15 秒和 30 秒之一。在触发警报之前, 您可以发送最长 30 秒的延迟警报图像。(最长时间取决于帧率)



- 预先/延迟警报持续时间在 SMTP 传输模式中不可用。在相应的时间将仅传输一个图像。

2. 完成后, 单击 [应用]。

将保存设置。

设置警报输入

1. 选择 <事件> - <警报输入 1> 或 <警报输入 2>。

警报输入设置窗口将会出现。

2. 完成后，单击 [应用]。

- **输入设备设置**：根据摄像机背面的警报感应器特性选择输入类型。

- 关：关闭警报输入设置。
- 常开：它通常是打开的，但是如果关闭，将触发警报。
- 常闭：它通常是关闭的，但是如果打开，将触发警报。

- **激活时间**：您可以设置在出现警报时执行特定命令的时间。

- 始终：在发生警报时，总是执行指定的命令。
- 仅预约时间：仅在指定的工作日或时间发生警报时，执行指定的命令。

- **动作**：您可以设置在发生警报时执行的操作。

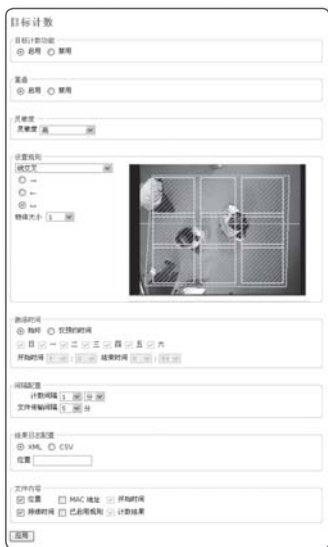
- 警报输出：设置将警报信号传输到的警报输出端口。
- 输出持续时间：设置在出现警报时将警报信号输出到指定警报输出端口的时间段。如果在警报输出过程中探测到新警报事件，将根据最近警报的探测时间重新计算延迟时间。
- 警报图像传输：如果您选择 <开>，就可以根据 <事件> - <传输设置> 中的设置将 JPEG 图像通过 FTP/电子邮件 (SMTP) 发送到登记地址或保存在 SD 内存卡中。



设置屏幕

设置目标计数功能

1. 单击 <事件> - <目标计数>。
将显示“目标计数配置”窗口。
2. 要启用目标计数功能，请在 <目标计数功能> 处选择 <启用>。
3. 要在监控视频中显示线交叉或区域面积，请在 <重叠> 处选择 <启用>。
4. 设置目标检测的灵敏度。
5. 设置线交叉或区域面积。
设置激活时间。



设置目标计数功能

1. 选择所需的规则以设置 <线交叉> 或 <区域面积>。
2. 设置目标计数规则的线或区域。
 - 设置线：选择 <线交叉>，然后单击鼠标左键，在配置屏幕的监视图像中绘制线。
完成线绘制后，单击鼠标右键。
在对话框中选择显示目标动作方向的线之一，然后单击 [OK] 按钮。





- 您可以绘制最多 11 个点的线。
 - 您必须绘制一条起始线，在起始线和图像边界之间形成要进入的目标的空间象。如果起始线与边界之间没有目标的空间，则无法启用线交叉。
 - 目标中心经过起始线后，如果目标中心与起始线之间的距离低于特定值，那么即使该对象再次经过起始线，也不会针对该目标计数。
距离值与指定的图像大小和 <大小> 成正比。
如果图像大小是 CIF (320x240)，则与 1 和 10 之间<物件大小>对应的距离将分别为 12、15、18、21、24、27、30、33、36 和 39。
 - 删除线：在 <线交叉> 配置屏幕中，将鼠标光标置于监视图像的计数线。当出现（线交叉）对话框时，单击 [Delete] 按钮。
 - 设置计数区域：选择 <区域面积>，然后单击鼠标左键以在配置屏幕中的监视图像上绘制一个多边形。
完成多边形绘制后，单击鼠标右键。当出现对话框时，单击 [OK] 按钮。
 - 您可以将计数区域设置为最多 11 个点的封闭式多边形。
 - 删除计数区域：将鼠标光标置于 <区域面积>配置屏幕中监视图像的计数区域 当出现对话框时，单击 [Delete] 按钮。
3. 选择要在配置屏幕的监视图像中显示的目标大小。
随着数字增加，监视图像中的目标的矩形也会变大。
如果将目标大小设置得较小，而出现的目标大很多，则检测到的目标数可能比实际多。
 4. 设置激活时间。
 - 始终：通过指定设置始终启用目标计数功能。
 - 仅预定时间：仅在指定时间和日期启用目标计数功能。
 5. 设置文件传输时间间隔。
 - 计数间隔：将特定时间内通过用户定义的界线的对象累计数和出现在计数区域中的对象的平均数保存为文件。
将以特定时间间隔在 <目标计数> - <区域> 中更新计数区域的平均值。
 - 文件传输间隔：包含在指定时间间隔计算的结果的 CSV 或 XML 文件将被传输到服务器。
 6. 指定结果日志的保存方式。
 - 文件格式：选择 XML 或 CSV 文件格式。
 - 位置：在发送到服务器之前，摄像机的位置信息将被附加到文件标题中。
 - 您只能输入字母和数字，最多输入 15 个字符。

设置屏幕

7. 指定文件的内容。
您可以指定文件中包含的内容。
8. 完成设置后，请单击 [应用] 按钮。



- 如果已激活目标计数功能，则无法使用事件功能或预约传输功能将图像或将其保存在 SD 卡中。

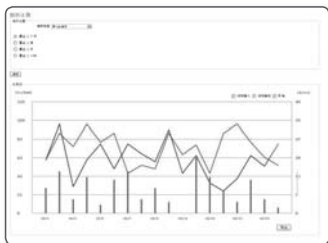


- 下列情形可能会导致目标计数功能出错或目标计数失败。
 - 如果光照连续变化，光照过照，或阴影过暗。
 - 目标不符合指定的 <目标大小> 或有人视为目标爬行。
 - 有人携带重物，如购物车，大皮箱等
 - 多人同时移动且挨得很紧
 - 视为目标的人保持静止，没有任何动作
(例如，有人保持站立或坐下的姿势，没有任何动作)
 - 阴影过暗或室内照明受到外部光源（如灯光，日光等）影响
 - 目标目标反射到地面或墙壁；或影子过深（例如，光滑的大理石地面，玻璃墙等）
 - 摄像机摇晃。
 - 除要计数的目标对象外，还有其它移动的目标（例如，旋转门、摇摆的窗帘等）
 - 目标的大小与走动或跑动的普通成年人存在明显差异（例如，学步的儿童、爬行的人和体形过胖的人等）
 - 多个目标同时移动（例如，携带大件物品的人、坐轮椅的人和相互搂肩的人等）
 - 仅显示目标对象的一部分（例如，位于图像边界和身体被特定结构遮住的人等）

搜索计数数据

您可以通过搜索方法查看长达 1 年的计数数据。

1. 选择 **<事件>** - **<图形计数>**。
将显示图形计数窗口。
2. 在搜索图形计数之前，请检查下列各项。
 - SD 内存卡：在插入前应解锁。
 - 警报图像：应选中 **<SD 卡录制>**。
 - 目标计数功能应处于操作状态或过去已操作。



3. 指定搜索条件并按下 **[搜索]**。

搜索最新数据

1. 选择最近的搜索搜索类型。
2. 如果选择最近一个月，则可按天搜索过去 30 天的数据。
3. 如果选择最近一周，则可按天搜索过去 7 天的数据。
4. 如果选择最近一天，则可按小时搜索过去 1 天的数据。
5. 如果选择最近一小时，则可以 5 分钟为单位搜索过去 1 小时的数据。

针对选择的范围进行搜索

1. 选择选择的搜索搜索类型。
2. 如果选择特定年份，将按月份搜索该年份的数据。
3. 如果选择特定月份，将按天搜索该月份的数据。
4. 如果选择特定的日期，将按小时搜索该日期的数据。
5. 如果选择特定的小时，将以 5 分钟为单位搜索该小时的数据。

设置屏幕

针对特定时间段进行搜索

1. 选择时间段搜索搜索类型。
2. 如果选择每年搜索，将按年份搜索指定时间段的数据。
3. 如果选择每月搜索，将按月份搜索指定时间段的数据。
4. 如果选择每天搜索，将按天搜索指定时间段的数据。

搜索指定时间段的平均数据

1. 选择平均搜索搜索类型。
2. 如果选择每天平均搜索，将搜索指定时间段的每天平均数据。
3. 如果选择每小时平均搜索，将搜索指定时间段的每小时平均数据。

查看所需数据项

1. 从结果图形的右上角选中或取消选中以下复选框：线性输入、线性输出或 区域。

将搜索结果作为文件输出

1. 单击结果图形右下角的 [输出]。
2. 搜索结果将保存到 “C:\CountingLog\Counting.csv” 文件中。

设置计划的传输

您可以设置以某个时间间隔将 JPEG 图像通过 FTP/SMTP 服务器传输到已注册地址或保存在 SD 内存卡中。

1. 选择 <事件> - <计划>。

计划传输设置窗口将会出现。

● 预约传输功能：

如果选择 <启用>，将激活预约传输功能；如果选择 <禁用>，将会取消激活。

- **传输时间间隔：**您可以设置传输图像的时间间隔。您可以设置间隔单位 <秒> 或 <分>；也可以设置每 5/15/30/45/60 秒钟传输一个图像，或每 5/15/30/45/60 分钟传输一个图像。

- **激活时间：**您可以设置在出现计划传输事件时执行特定命令的时间。

- 始终：总是以设置的间隔发送图像。
- 仅预约时间：仅在指定的工作日或时间发送图像。

2. 完成后，单击 [应用]。

将保存设置。



设置屏幕

网络设置

设置视频传输模式

您可以根据视频传输模式和网络速度控制传输率。

1. 选择 **<网络>** - **<流类型>**。

视频传输设置窗口将会出现。

2. 完成后，单击 **[应用]**。

将保存设置。

- **VNP 流**：您可以设置用于现场直播服务的 Samsung 协议（VNP）。

- 协议：从 TCP*、UDP(单播)*和 UDP(多播)*中选择视频传输协议。

- 不支援多播架构（MBone）；您可以仅在多播本地网络环境中访问摄像机。

- **RTP 流**：您可以设置用于现场直播服务的 RTP 协议。

- 协议：从 UDP(单播)和 UDP(多播)中选择视频传输协议。



设置 DDNS

DDNS 是动态域名服务的缩写，可以将摄像机的 IP 地址转化成一般主机名，以便用户可以轻松地记住它，并且能够以固定的主机名连接摄像机，即使摄像机的 IP 地址可能会动态更改。

1. 选择 **<网络>** - **<DDNS>**。

DDNS 设置窗口将会出现。

2. 完成后，单击 **[应用]**。

将保存设置。



- 若要检查 DDNS 地址，请参阅“检查 DDNS 地址”。（第 44 页）



附录

概图

摄像机设置菜单		标准	道路交通	背光	日/夜	娱乐场所	银行
上一级菜单	子菜单						
光圈		自动光圈	自动光圈	自动光圈	自动光圈	自动光圈	自动光圈
	自动光圈	-	-	-	-	-	-
	镜头	直流驱动	直流驱动	直流驱动	直流驱动	直流驱动	直流驱动
	数值	0	0	0	0	0	0
	背光	关	关	宽动态	关	关	宽动态
移动		(很快) ——	(很快) ——	标准	(很快) ——	慢	(很快) ——
数字降噪		中	中	中	中	中	中
快门		关	自动 1/250	关	关	关	关
低速快门		自动 X4	自动 X2	自动 X4	自动 X4	自动 X4	自动 X4
暗区补偿		中	中	中	中	中	中
日/夜		自动	自动	白天	自动	白天	自动
	夜晚	-	-	-	-	-	-
	色同步	关	开	关	关	关	关
白平衡		白天	日/夜	白天	日/夜	白天	白天
	白天	-	-	-	-	-	-
	模式	自动跟踪2	自动跟踪1	自动跟踪1	自动跟踪1	自动跟踪1	自动跟踪2
	红	0	0	0	0	0	0
	蓝	0	0	0	0	0	0
	夜晚	-	-	-	-	-	-
	亮度	自定义设置	中	自定义设置	中	自定义设置	自定义设置
	模式	关	自动跟踪2	关	自动跟踪2	关	关
	红	自定义设置	0	自定义设置	0	自定义设置	自定义设置
	蓝	自定义设置	0	自定义设置	0	自定义设置	自定义设置
清晰度		2	2	2	2	2	2

附录

术语

- **GOP**: 默认值是 15。如果设置为 15, 则每 15 帧将输出一个 I 帧, 因为一个 I 帧和 14 个 P 帧构成 GOP。
GOP 越小, 质量越好; 但是, 比特率及数据大小将增加, 导致 fps 较小。GOP (图片组) 是用于 MPEG4 和 H.264 格式压缩的视频帧, 表示从初始 I 帧 (关键帧) 到下一个 I 帧的帧集合。I 帧是压缩的基本帧, 也称为关键, 包含一个完整的图像数据。P 帧仅包含从上述 I 帧更改的数据。
- **熵编码**: 用于从编码中减少压缩损失的数据传输技术。
 - CAVLC (自适应变长码编码): 比 CABAC 记录更高的压缩损失率。
 - CABAC (自适应二进制算术编码): 表明比 CAVLC 的压缩损失更小。
- **比特率控制**
 - CBR (恒定比特率)
这将始终以相同的大小传输视频数据, 不管视频复杂程度如何。视频质量可能会降低, 取决于视频复杂程度。
 - VBR (可变比特率)
要传输的视频数据量可能会有不同, 取决于视频复杂程度。这可以保证始终以相同的质量接收视频数据。。
- **TTL**: TTL 表示“生存时间”, 您可以指定来防止丢失通过多阶段路由器的数据包。每个路由器在数据包每次通过它时会减小 TTL 值; 如果 TTL 值达到 0, 则数据包无法再通过路由器。
- **TCP**: 它是用于要求可靠性的传输的普通用途协议。通过在发件人和收件人之间的持续通信, 它可以提供高可靠的数据传输; 但是, 它会模拟以高速实时传输大量数据。它能够以相对较低的速度通过 xDSL 和电缆网可靠传输数据。
- **UDP (单播)**: 它表示仅在一个发射器和一个接收器 (1:1) 之间传输数据的系统。
- **UDP (多播)**: 它表示在传输和接收终端之间一对多 (1:N) 的数据传输协议; 虽然它能够减少网络负荷, 但是它需要有 <多播> 路由器。有关安装摄像机的网络是否支持 <多播> 的详情, 请联系网络管理员。
- **UDP**: 它是适合以高速传输大量数据 (如多媒体数据) 的协议。但是, 通过使用非连接结构, 它比 TCP 记录更高的传输效率, 尤其在速度超过 100Mbps 的高 LAN 环境中。

规格

项目			说明	
			NTSC	PAL
摄像机类型	彩色/黑白		彩色	
图像	设备		1/3" Super-HAD PS CCD	
	像素	总计	811 x 508	795 x 596
		有效	768 x 494	752 x 582
扫描	系统		逐行	
	水平频率		15,734 Hz	15,625 Hz
	垂直频率		59.94 Hz	50 Hz
最小景物亮度	彩色		低照度关闭: 0.12 勒克司(15 IRE)、0.2 勒克司(30 IRE)、0.4 勒克司(50 IRE)@F1.2 低照度补偿 x512: 0.00023 勒克司(15 IRE)、0.0005 勒克司(30 IRE)、0.0008 勒克司(50 IRE)@F1.2	
	黑白		低照度关闭: 0.012 勒克司(15 IRE)、0.02 勒克司(30 IRE)、0.04 勒克司(50 IRE)@F1.2 低照度补偿 x512: 0.000023 勒克司(15 IRE)、0.000057 勒克司(30 IRE)、0.00008 勒克司(50 IRE)@F1.2	
功能	加密区域数		12 个	
	白天/夜晚		白天/夜晚/自动(软方法)	
	暗区补偿		关/开(级别设置)	
	宽动态		关/开(128)	关/开(160)
	数字变焦		x1 ~ x16(x0.1 步幅)	
	画中画		关/开(高级)	
	高速快门		1/60 ~ 1/10Ksec	1/50 ~ 1/10Ksec
	防闪烁		关/开	
	低照度补偿		x2 ~ x512	
	背光补偿		关/开(区域设置)	
	自动增益		关/开(最大级别设置)	
	摄像机识别号		关/开(最大 54ea/2Line)	
	白平衡		自动跟踪 1/自动跟踪 2/自动控制白平衡/手动	
	数字降噪		关/开(自适应 3D+2D)	
	数字图像稳定器		关/开	
	其他功能		清晰度, 翻转 (H/V), 正片/底片	

附录

项目			说明	
			NTSC	PAL
分辨率	水平		600 TV 行	
	垂直		350 TV 行	
视频输出	视频输出		VBS 1.0Vp-p	
S/N 比率	S/N 比率		大约 52 dB	
镜头	镜头驱动类型		AI(直流驱动)	
	安装类型		块类型	
网络板	操作系统		嵌入式 Linux	
	硬件	闪存	32M byte	
		RAM	256M byte	
		DSP	TI Davinci	
		以太网	RJ-45 (10/100BASE-T)	
		PoE	是 (IEEE802.3af)	
报警	输入		2 个	
	输出		2 个	
视频	压缩		H.264 / MPEG4 / MJPEG 多编解码器 (H.264 / MPEG4 可选) 同时双流	
	分辨率	4CIF	704x480	704x576
		VGA	640x480	
		CIF	352x240	352x288
	帧率		30, 15, 8, 3, 1 fps	25, 13, 6, 3, 1 fps
	质量		1 ~ 10 级	
OSD	摄像机控制和调整		视频上的 OSD 菜单 (菜单输入/退出, 由 Web UI 移动) * CGI API 将支持某些主要的调整菜单。	
目标计数	设置规则		线交叉, 区域面积	

项目			说明	
			NTSC	PAL
协议	IP		IPv4 / IPv6	
	网络协议	IPv4	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, VSIP	
		IPv6	TCP/IP, HTTP, HTTPS, SSL, DHCP	
	流		单播 (TCP, UDP)、多播 (UDP)	
	安全性		HTTPS 登录认证 分类登录验证	
	DDNS		支持 Samsung DDNS 和公共 DDNS 服务	
连接	最大用户访问量		在单播 (TCP, UDP) 模式最多 10 个用户 在多播 (UDP) 模式最多 20 个用户	
	用户访问级别	管理员	现场监视、警报 I/O 控制、OSD 菜单控制、设置	
		操作员	现场监视、警报 I/O 控制	
		用户	现场监视	
事件管理	警报输入		JPEG 图像传输：FTP、SMTP、SD 卡 通知：通知查看器或通过电子邮件（一个图像附件） 警报输出	
	计划		JPEG 图像传输：FTP、SMTP、SD 卡	
Web 浏览查看器(默认)	支援的操作系统		Windows XP, Windows VISTA, Windows 7	
	支持的浏览器		Internet Explorer 6.0 或更高版本	
	界面语言		英语/法语/德语/西班牙语/意大利语/中文/韩语	
	软件升级		支持	
视频播放器	RTP/RTSP 流		Quicktime、VLC 播放器	
视频管理软件			Samsung iPOLiS 第三方软件应用程序	
应用程序	IP 安装		适用于所有 Samsung IP 设备的 IP Installer 应用程序	

附录

项目			说明	
			NTSC	PAL
SDK	HTTP API	CGI 命令	提供控制摄像机及设置/检索内部参数值的功能。 获取 JPEG 图像或 MJPEG 流 信号输入/输出控制	
	RTP/RTSP API		RTP 报头、RTSP 命令文档	
	ActiveX	SDK	ActiveX API 用于查看来自 IP 摄像机的数据流。	
电源			24 伏交流电 $\pm 10\%$ (60Hz ± 0.3 Hz)	24 伏交流电 $\pm 10\%$ (50Hz ± 0.3 Hz)
			12 伏直流电 +10%/-5% /PoE(以太网供电)	
耗电量			最大 6W(12 伏直流电), 最大 7W(24 伏交流电_), 最大 8W(PoE)	
工作温度			-10°C ~ 50°C	
工作湿度			~90%	
尺寸 (Ø x H)			133.0(Ø) x 129.4(H)mm	
重量			关于 523 克	

帧率 (NTSC)



■ 测试条件: MJPEG - 解像度 (CIF), 质量 (1), 帧率 (1)

H.264 - 比特率控制 (CBR), 压缩 (40), 编码优先级 (帧率),
GOP 大小 (15), 解决 (开), 概图 (基线), 熵编码 (CAVLC),
预计动作 (HPel)

MPEG4 - 比特率控制 (CBR), 压缩 (40), 编码优先级 (帧率),
消除交错信号 (开), GOP 大小 (15)

❖ MPEG4 (4CIF)

质量 \ 帧率	30 FPS	15 FPS	8 FPS	3 FPS	1 FPS
数值10	4239 Kbps 23 FPS	2765 Kbps 15 FPS	1290 Kbps 7 FPS	737 Kbps 4 FPS	221 Kbps 1 FPS
数值9	3686 Kbps 24 FPS	2304 Kbps 15 FPS	1075 Kbps 7 FPS	614 Kbps 4 FPS	184 Kbps 1 FPS
数值8	3072 Kbps 25 FPS	1843 Kbps 15 FPS	860 Kbps 7 FPS	492 Kbps 4 FPS	147 Kbps 1 FPS
数值7	2396 Kbps 26 FPS	1382 Kbps 15 FPS	645 Kbps 7 FPS	369 Kbps 4 FPS	111 Kbps 1 FPS
数值6	1659 Kbps 27 FPS	922 Kbps 15 FPS	430 Kbps 7 FPS	246 Kbps 4 FPS	74 Kbps 1 FPS
数值5	1336 Kbps 29 FPS	691 Kbps 15 FPS	323 Kbps 7 FPS	184 Kbps 4 FPS	55 Kbps 1 FPS
数值4	1133 Kbps 30 FPS	576 Kbps 15 FPS	269 Kbps 7 FPS	154 Kbps 4 FPS	46 Kbps 1 FPS
数值3	922 Kbps 30 FPS	461 Kbps 15 FPS	215 Kbps 7 FPS	123 Kbps 4 FPS	37 Kbps 1 FPS
数值2	691 Kbps 30 FPS	346 Kbps 15 FPS	161 Kbps 7 FPS	92 Kbps 4 FPS	28 Kbps 1 FPS
数值1	461 Kbps 30 FPS	230 Kbps 15 FPS	108 Kbps 7 FPS	61 Kbps 4 FPS	18 Kbps 1 FPS

附录

❖ H.264 (4CIF)

质量 \ 帧率	30 FPS	15 FPS	8 FPS	3 FPS	1 FPS
数值10	2298 Kbps 19 FPS	1229 Kbps 10 FPS	737 Kbps 6 FPS	369 Kbps 3 FPS	147 Kbps 1 FPS
数值9	1751 Kbps 19 FPS	1198 Kbps 13 FPS	645 Kbps 7 FPS	369 Kbps 4 FPS	111 Kbps 1 FPS
数值8	1536 Kbps 20 FPS	1075 Kbps 14 FPS	538 Kbps 7 FPS	307 Kbps 4 FPS	92 Kbps 1 FPS
数值7	1352 Kbps 22 FPS	897 Kbps 15 FPS	430 Kbps 7 FPS	246 Kbps 4 FPS	74 Kbps 1 FPS
数值6	1129 Kbps 25 FPS	691 Kbps 15 FPS	369 Kbps 8 FPS	184 Kbps 4 FPS	55 Kbps 1 FPS
数值5	960 Kbps 25 FPS	576 Kbps 15 FPS	307 Kbps 8 FPS	154 Kbps 4 FPS	46 Kbps 1 FPS
数值4	799 Kbps 26 FPS	461 Kbps 15 FPS	246 Kbps 8 FPS	123 Kbps 4 FPS	37 Kbps 1 FPS
数值3	622 Kbps 27 FPS	346 Kbps 15 FPS	184 Kbps 8 FPS	92 Kbps 4 FPS	28 Kbps 1 FPS
数值2	445 Kbps 29 FPS	230 Kbps 15 FPS	123 Kbps 8 FPS	61 Kbps 4 FPS	18 Kbps 1 FPS
数值1	223 Kbps 29 FPS	115 Kbps 15 FPS	61 Kbps 8 FPS	31 Kbps 4 FPS	9 Kbps 1 FPS

❖ MPEG4 (VGA)

质量 \ 帧率	30 FPS	15 FPS	8 FPS	3 FPS	1 FPS
数值10	4055 Kbps 22 FPS	2580 Kbps 14 FPS	1290 Kbps 7 FPS	737 Kbps 4 FPS	221 Kbps 1 FPS
数值9	3533 Kbps 23 FPS	2304 Kbps 15 FPS	1075 Kbps 7 FPS	614 Kbps 4 FPS	184 Kbps 1 FPS
数值8	2949 Kbps 24 FPS	1843 Kbps 15 FPS	860 Kbps 7 FPS	492 Kbps 4 FPS	147 Kbps 1 FPS
数值7	2304 Kbps 25 FPS	1382 Kbps 15 FPS	645 Kbps 7 FPS	369 Kbps 4 FPS	111 Kbps 1 FPS
数值6	1536 Kbps 25 FPS	922 Kbps 15 FPS	430 Kbps 7 FPS	246 Kbps 4 FPS	74 Kbps 1 FPS
数值5	1152 Kbps 25 FPS	691 Kbps 15 FPS	323 Kbps 7 FPS	184 Kbps 4 FPS	55 Kbps 1 FPS
数值4	998 Kbps 26 FPS	576 Kbps 15 FPS	269 Kbps 7 FPS	154 Kbps 4 FPS	46 Kbps 1 FPS
数值3	799 Kbps 26 FPS	461 Kbps 15 FPS	246 Kbps 8 FPS	123 Kbps 4 FPS	37 Kbps 1 FPS
数值2	622 Kbps 27 FPS	346 Kbps 15 FPS	184 Kbps 8 FPS	92 Kbps 4 FPS	28 Kbps 1 FPS
数值1	415 Kbps 27 FPS	230 Kbps 15 FPS	123 Kbps 8 FPS	61 Kbps 4 FPS	18 Kbps 1 FPS

附录

❖ H.264 (VGA)

质量 \ 帧率	30 FPS	15 FPS	8 FPS	3 FPS	1 FPS
数值10	2089 Kbps 17 FPS	1229 Kbps 10 FPS	737 Kbps 6 FPS	369 Kbps 3 FPS	147 Kbps 1 FPS
数值9	1659 Kbps 18 FPS	1014 Kbps 11 FPS	553 Kbps 6 FPS	276 Kbps 3 FPS	111 Kbps 1 FPS
数值8	1459 Kbps 19 FPS	845 Kbps 11 FPS	538 Kbps 7 FPS	307 Kbps 4 FPS	92 Kbps 1 FPS
数值7	1229 Kbps 20 FPS	737 Kbps 12 FPS	430 Kbps 7 FPS	246 Kbps 4 FPS	74 Kbps 1 FPS
数值6	1014 Kbps 22 FPS	691 Kbps 15 FPS	323 Kbps 7 FPS	184 Kbps 4 FPS	55 Kbps 1 FPS
数值5	883 Kbps 23 FPS	576 Kbps 15 FPS	269 Kbps 7 FPS	154 Kbps 4 FPS	46 Kbps 1 FPS
数值4	707 Kbps 23 FPS	461 Kbps 15 FPS	215 Kbps 7 FPS	123 Kbps 4 FPS	37 Kbps 1 FPS
数值3	553 Kbps 24 FPS	346 Kbps 15 FPS	161 Kbps 7 FPS	92 Kbps 4 FPS	28 Kbps 1 FPS
数值2	384 Kbps 25 FPS	230 Kbps 15 FPS	108 Kbps 7 FPS	61 Kbps 4 FPS	18 Kbps 1 FPS
数值1	200 Kbps 26 FPS	115 Kbps 15 FPS	54 Kbps 7 FPS	31 Kbps 4 FPS	9 Kbps 1 FPS

❖ MPEG4 (CIF)

质量 \ 帧率	30 FPS	15 FPS	8 FPS	3 FPS	1 FPS
数值10	1382 Kbps 30 FPS	691 Kbps 15 FPS	369 Kbps 8 FPS	184 Kbps 4 FPS	55 Kbps 1 FPS
数值9	1152 Kbps 30 FPS	576 Kbps 15 FPS	307 Kbps 8 FPS	154 Kbps 4 FPS	46 Kbps 1 FPS
数值8	922 Kbps 30 FPS	461 Kbps 15 FPS	246 Kbps 8 FPS	123 Kbps 4 FPS	37 Kbps 1 FPS
数值7	691 Kbps 30 FPS	346 Kbps 15 FPS	184 Kbps 8 FPS	92 Kbps 4 FPS	28 Kbps 1 FPS
数值6	461 Kbps 30 FPS	230 Kbps 15 FPS	123 Kbps 8 FPS	61 Kbps 4 FPS	18 Kbps 1 FPS
数值5	346 Kbps 30 FPS	173 Kbps 15 FPS	92 Kbps 8 FPS	46 Kbps 4 FPS	14 Kbps 1 FPS
数值4	288 Kbps 30 FPS	144 Kbps 15 FPS	77 Kbps 8 FPS	38 Kbps 4 FPS	12 Kbps 1 FPS
数值3	230 Kbps 30 FPS	115 Kbps 15 FPS	61 Kbps 8 FPS	31 Kbps 4 FPS	9 Kbps 1 FPS
数值2	173 Kbps 30 FPS	86 Kbps 15 FPS	46 Kbps 8 FPS	23 Kbps 4 FPS	7 Kbps 1 FPS
数值1	151 Kbps 30 FPS	76 Kbps 15 FPS	40 Kbps 8 FPS	20 Kbps 4 FPS	6 Kbps 1 FPS

附录

❖ H.264 (CIF)

质量 \ 帧率	30 FPS	15 FPS	8 FPS	3 FPS	1 FPS
数值10	922 Kbps 30 FPS	461 Kbps 15 FPS	215 Kbps 7 FPS	123 Kbps 4 FPS	37 Kbps 1 FPS
数值9	691 Kbps 30 FPS	346 Kbps 15 FPS	184 Kbps 8 FPS	92 Kbps 4 FPS	28 Kbps 1 FPS
数值8	576 Kbps 30 FPS	288 Kbps 15 FPS	134 Kbps 7 FPS	77 Kbps 4 FPS	23 Kbps 1 FPS
数值7	461 Kbps 30 FPS	230 Kbps 15 FPS	108 Kbps 7 FPS	61 Kbps 4 FPS	18 Kbps 1 FPS
数值6	346 Kbps 30 FPS	173 Kbps 15 FPS	81 Kbps 7 FPS	46 Kbps 4 FPS	14 Kbps 1 FPS
数值5	288 Kbps 30 FPS	144 Kbps 15 FPS	67 Kbps 7 FPS	38 Kbps 4 FPS	12 Kbps 1 FPS
数值4	230 Kbps 30 FPS	115 Kbps 15 FPS	54 Kbps 7 FPS	31 Kbps 4 FPS	9 Kbps 1 FPS
数值3	173 Kbps 30 FPS	86 Kbps 15 FPS	40 Kbps 7 FPS	23 Kbps 4 FPS	7 Kbps 1 FPS
数值2	115 Kbps 30 FPS	58 Kbps 15 FPS	27 Kbps 7 FPS	15 Kbps 4 FPS	5 Kbps 1 FPS
数值1	58 Kbps 30 FPS	29 Kbps 15 FPS	13 Kbps 7 FPS	8 Kbps 4 FPS	2 Kbps 1 FPS

帧率 (PAL)



■ 测试条件: MJPEG - 解像度 (CIF), 质量 (1), 帧率 (1)

H.264 - 比特率控制 (CBR), 压缩 (40), 编码优先级 (帧率),
GOP 大小 (15), 解块 (开), 概图 (基线), 熵编码 (CAVLC),
预计动作 (HPel)

MPEG4 - 比特率控制 (CBR), 压缩 (40), 编码优先级 (帧率),
消除交错信号 (开), GOP 大小 (15)

❖ MPEG4 (4CIF)

质量 \ 帧率	25 FPS	13 FPS	6 FPS	3 FPS	1 FPS
数值10	4645 Kbps 21 FPS	2654 Kbps 12 FPS	1327 Kbps 6 FPS	664 Kbps 3 FPS	221 Kbps 1 FPS
数值9	4055 Kbps 22 FPS	2212 Kbps 12 FPS	1106 Kbps 6 FPS	553 Kbps 3 FPS	184 Kbps 1 FPS
数值8	3391 Kbps 23 FPS	1769 Kbps 12 FPS	885 Kbps 6 FPS	442 Kbps 3 FPS	147 Kbps 1 FPS
数值7	2544 Kbps 23 FPS	1327 Kbps 12 FPS	664 Kbps 6 FPS	332 Kbps 3 FPS	111 Kbps 1 FPS
数值6	1769 Kbps 24 FPS	885 Kbps 12 FPS	442 Kbps 6 FPS	221 Kbps 3 FPS	74 Kbps 1 FPS
数值5	1382 Kbps 25 FPS	664 Kbps 12 FPS	332 Kbps 6 FPS	166 Kbps 3 FPS	55 Kbps 1 FPS
数值4	1152 Kbps 25 FPS	553 Kbps 12 FPS	276 Kbps 6 FPS	138 Kbps 3 FPS	46 Kbps 1 FPS
数值3	922 Kbps 25 FPS	442 Kbps 12 FPS	221 Kbps 6 FPS	111 Kbps 3 FPS	37 Kbps 1 FPS
数值2	691 Kbps 25 FPS	332 Kbps 12 FPS	166 Kbps 6 FPS	83 Kbps 3 FPS	28 Kbps 1 FPS
数值1	461 Kbps 25 FPS	221 Kbps 12 FPS	111 Kbps 6 FPS	55 Kbps 3 FPS	18 Kbps 1 FPS

附录

❖ H.264 (4CIF)

质量 \ 帧率	25 FPS	13 FPS	6 FPS	3 FPS	1 FPS
数值10	2359 Kbps 16 FPS	1180 Kbps 8 FPS	737 Kbps 5 FPS	442 Kbps 3 FPS	147 Kbps 1 FPS
数值9	1991 Kbps 18 FPS	1106 Kbps 10 FPS	664 Kbps 6 FPS	332 Kbps 3 FPS	111 Kbps 1 FPS
数值8	1751 Kbps 19 FPS	1014 Kbps 11 FPS	553 Kbps 6 FPS	276 Kbps 3 FPS	92 Kbps 1 FPS
数值7	1475 Kbps 20 FPS	885 Kbps 12 FPS	442 Kbps 6 FPS	221 Kbps 3 FPS	74 Kbps 1 FPS
数值6	1161 Kbps 21 FPS	664 Kbps 12 FPS	332 Kbps 6 FPS	166 Kbps 3 FPS	55 Kbps 1 FPS
数值5	968 Kbps 21 FPS	553 Kbps 12 FPS	276 Kbps 6 FPS	138 Kbps 3 FPS	46 Kbps 1 FPS
数值4	811 Kbps 22 FPS	442 Kbps 12 FPS	221 Kbps 6 FPS	111 Kbps 3 FPS	37 Kbps 1 FPS
数值3	608 Kbps 22 FPS	332 Kbps 12 FPS	166 Kbps 6 FPS	83 Kbps 3 FPS	28 Kbps 1 FPS
数值2	424 Kbps 23 FPS	221 Kbps 12 FPS	111 Kbps 6 FPS	55 Kbps 3 FPS	18 Kbps 1 FPS
数值1	230 Kbps 25 FPS	111 Kbps 12 FPS	55 Kbps 6 FPS	28 Kbps 3 FPS	9 Kbps 1 FPS

❖ MPEG4 (VGA)

质量 \ 帧率	25 FPS	13 FPS	6 FPS	3 FPS	1 FPS
数值10	4424 Kbps 20 FPS	2654 Kbps 12 FPS	1327 Kbps 6 FPS	664 Kbps 3 FPS	221 Kbps 1 FPS
数值9	3871 Kbps 21 FPS	2212 Kbps 12 FPS	1106 Kbps 6 FPS	553 Kbps 3 FPS	184 Kbps 1 FPS
数值8	3097 Kbps 21 FPS	1769 Kbps 12 FPS	885 Kbps 6 FPS	442 Kbps 3 FPS	147 Kbps 1 FPS
数值7	2433 Kbps 22 FPS	1327 Kbps 12 FPS	664 Kbps 6 FPS	332 Kbps 3 FPS	111 Kbps 1 FPS
数值6	1769 Kbps 24 FPS	885 Kbps 12 FPS	442 Kbps 6 FPS	221 Kbps 3 FPS	74 Kbps 1 FPS
数值5	1382 Kbps 25 FPS	664 Kbps 12 FPS	332 Kbps 6 FPS	166 Kbps 3 FPS	55 Kbps 1 FPS
数值4	1152 Kbps 25 FPS	553 Kbps 12 FPS	276 Kbps 6 FPS	138 Kbps 3 FPS	46 Kbps 1 FPS
数值3	922 Kbps 25 FPS	442 Kbps 12 FPS	221 Kbps 6 FPS	111 Kbps 3 FPS	37 Kbps 1 FPS
数值2	691 Kbps 25 FPS	332 Kbps 12 FPS	166 Kbps 6 FPS	83 Kbps 3 FPS	28 Kbps 1 FPS
数值1	461 Kbps 25 FPS	221 Kbps 12 FPS	111 Kbps 6 FPS	55 Kbps 3 FPS	18 Kbps 1 FPS

附录

❖ H.264 (VGA)

质量 \ 帧率	25 FPS	13 FPS	6 FPS	3 FPS	1 FPS
数值10	2507 Kbps 17 FPS	1327 Kbps 9 FPS	737 Kbps 5 FPS	442 Kbps 3 FPS	147 Kbps 1 FPS
数值9	1991 Kbps 18 FPS	1217 Kbps 11 FPS	664 Kbps 6 FPS	332 Kbps 3 FPS	111 Kbps 1 FPS
数值8	1659 Kbps 18 FPS	1106 Kbps 12 FPS	553 Kbps 6 FPS	276 Kbps 3 FPS	92 Kbps 1 FPS
数值7	1401 Kbps 19 FPS	885 Kbps 12 FPS	442 Kbps 6 FPS	221 Kbps 3 FPS	74 Kbps 1 FPS
数值6	1106 Kbps 20 FPS	664 Kbps 12 FPS	332 Kbps 6 FPS	166 Kbps 3 FPS	55 Kbps 1 FPS
数值5	968 Kbps 21 FPS	553 Kbps 12 FPS	276 Kbps 6 FPS	138 Kbps 3 FPS	46 Kbps 1 FPS
数值4	774 Kbps 21 FPS	442 Kbps 12 FPS	221 Kbps 6 FPS	111 Kbps 3 FPS	37 Kbps 1 FPS
数值3	608 Kbps 22 FPS	332 Kbps 12 FPS	166 Kbps 6 FPS	83 Kbps 3 FPS	28 Kbps 1 FPS
数值2	424 Kbps 23 FPS	221 Kbps 12 FPS	111 Kbps 6 FPS	55 Kbps 3 FPS	18 Kbps 1 FPS
数值1	230 Kbps 25 FPS	111 Kbps 12 FPS	55 Kbps 6 FPS	28 Kbps 3 FPS	9 Kbps 1 FPS

❖ MPEG4 (CIF)

质量 \ 帧率	25 FPS	13 FPS	6 FPS	3 FPS	1 FPS
数值10	1382 Kbps 25 FPS	664 Kbps 12 FPS	332 Kbps 6 FPS	166 Kbps 3 FPS	55 Kbps 1 FPS
数值9	1152 Kbps 25 FPS	553 Kbps 12 FPS	276 Kbps 6 FPS	138 Kbps 3 FPS	46 Kbps 1 FPS
数值8	922 Kbps 25 FPS	442 Kbps 12 FPS	221 Kbps 6 FPS	111 Kbps 3 FPS	37 Kbps 1 FPS
数值7	691 Kbps 25 FPS	332 Kbps 12 FPS	166 Kbps 6 FPS	83 Kbps 3 FPS	28 Kbps 1 FPS
数值6	461 Kbps 25 FPS	221 Kbps 12 FPS	111 Kbps 6 FPS	55 Kbps 3 FPS	18 Kbps 1 FPS
数值5	346 Kbps 25 FPS	166 Kbps 12 FPS	83 Kbps 6 FPS	41 Kbps 3 FPS	14 Kbps 1 FPS
数值4	288 Kbps 25 FPS	138 Kbps 12 FPS	69 Kbps 6 FPS	35 Kbps 3 FPS	12 Kbps 1 FPS
数值3	230 Kbps 25 FPS	111 Kbps 12 FPS	55 Kbps 6 FPS	28 Kbps 3 FPS	9 Kbps 1 FPS
数值2	173 Kbps 25 FPS	83 Kbps 12 FPS	41 Kbps 6 FPS	21 Kbps 3 FPS	7 Kbps 1 FPS
数值1	151 Kbps 25 FPS	73 Kbps 12 FPS	36 Kbps 6 FPS	18 Kbps 3 FPS	6 Kbps 1 FPS

附录

❖ H.264 (CIF)

质量 \ 帧率	25 FPS	13 FPS	6 FPS	3 FPS	1 FPS
数值10	922 Kbps 25 FPS	442 Kbps 12 FPS	221 Kbps 6 FPS	111 Kbps 3 FPS	37 Kbps 1 FPS
数值9	691 Kbps 25 FPS	332 Kbps 12 FPS	166 Kbps 6 FPS	83 Kbps 3 FPS	28 Kbps 1 FPS
数值8	576 Kbps 25 FPS	276 Kbps 12 FPS	138 Kbps 6 FPS	69 Kbps 3 FPS	23 Kbps 1 FPS
数值7	461 Kbps 25 FPS	221 Kbps 12 FPS	111 Kbps 6 FPS	55 Kbps 3 FPS	18 Kbps 1 FPS
数值6	346 Kbps 25 FPS	166 Kbps 12 FPS	83 Kbps 6 FPS	41 Kbps 3 FPS	14 Kbps 1 FPS
数值5	288 Kbps 25 FPS	138 Kbps 12 FPS	69 Kbps 6 FPS	35 Kbps 3 FPS	12 Kbps 1 FPS
数值4	230 Kbps 25 FPS	111 Kbps 12 FPS	55 Kbps 6 FPS	28 Kbps 3 FPS	9 Kbps 1 FPS
数值3	173 Kbps 25 FPS	83 Kbps 12 FPS	41 Kbps 6 FPS	21 Kbps 3 FPS	7 Kbps 1 FPS
数值2	115 Kbps 25 FPS	55 Kbps 12 FPS	28 Kbps 6 FPS	14 Kbps 3 FPS	5 Kbps 1 FPS
数值1	58 Kbps 25 FPS	28 Kbps 12 FPS	14 Kbps 6 FPS	7 Kbps 3 FPS	2 Kbps 1 FPS

故障排除

故障	解决方法
无法使用网络浏览器访问摄像头。	- 检查摄像头的网络设置 是否正确。 - 检查网络缆线是否正确 连接。 - 若使用 DHCP 连接, 检查摄像头是否能够 无故障地获得动态 IP 地址。 - 若使用 DDNS URL, 确认 MAC 地址输入是否正确。 - 若摄像头与路由器连接, 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头或网络配置发生更改时会断开。 - 检查所有的网络连接。 - 若摄像头通过 xDSL 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。	在尝试使用选项卡浏览器连接系统时, 使用的 cookie 信息相同, 这导致了连接时出错。因此, 打开新的浏览器窗口, 而非使用选项卡浏览器来连接系统。
IP 安装程序未检测到连接至网络的摄像头。	关闭 PC 上的防火墙设置, 再次搜索摄像头。
图像重叠。	检查是否将多个摄像头应当设置的不同地址设为了同一多播地址。多个摄像头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, 请检查摄像头所连接的 LAN 中是否有路由器支持多播。

附录

故障	解决方法
我已在<设置>中将<目标计数>设置为<开>,但监视屏幕中显示的绿色框大于或小于路过的人的图像大小。	在监视屏幕的<设置>-<目标计数>中适当地更改目标大小,并检查绿色框是否适合。
我已在<设置>中将<目标计数>设置为<启用>,但绿色框几乎不显示或超出监视屏幕的显示大小。	如果绿色框几乎不显示,则在<设置>-<目标计数>中提高灵敏度;如果绿色框过大,则在<设置>-<目标计数>中降低灵敏度。
我在监视屏幕上看不到任何界限规则或区域系数规则。	检查是否已在<设置>-<目标计数>中将<重叠>设置为<启用>。
无法录制到SD内存卡。	- 检查内存卡是否有缺陷。 - 检查内存卡的写保护标签是否设置为“锁定”。
在插入SD内存后,SD内存指示灯不亮。	- 检查内存卡是否有缺陷。 - 检查在<设置>→<事件>→<SD卡录制>菜单中,是否选中了<录制>。
插入了SD内存卡,但摄像机操作不正常。	- 检查是否以正确的方向插入内存卡。不能保证本摄像机装置能正常使用由其他设备格式化的内存卡 - 在<设置>→<事件>→<SD卡>菜单中,再次格式化内存卡。
无法格式化SD内存卡。	检查内存卡的写保护标签是否设置为“锁定”。

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@samsung.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 S/W
 - Base Kernel, Busybox, Sysvinit, dosfstools
- LGPL S/W
 - gLibc, Inetutils

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright © 1989, 1991 Free Software Foundation, Inc.

51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

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

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software-- to make sure the software is free for all its users.

This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price.

Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

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

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

You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps:

(1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

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

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

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

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

The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law : that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License ; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty ; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions :

- a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
- c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program

itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

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

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

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following :

- a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange ; or,
- b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete 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 what you want to do, use the GNU Lesser General Public License instead of this License.

GNU GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

Copyright © 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 danger 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.

The 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 general-purpose 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.

END OF TERMS AND CONDITIONS

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999
Copyright © 1991, 1999 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.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages—typically libraries—of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, 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 and use pieces of it in new free programs; and that you are informed that you can do these things.

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

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also,

if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, 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 library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete 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 distribute a copy of this License along with the Library.

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 Library or any portion of it, thus forming a work based on the Library, 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) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful. (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.) These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, 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 Library, 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 Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you 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.

If distribution of 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 satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that

(1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be 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.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
- b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library 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.
9. 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 Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library 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 with this License.
11. 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 Library at all. For example, if a patent license would not permit royalty free redistribution of the Library 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 Library.

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.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library 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.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser 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 Library 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 Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, 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

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER

PARTIES PROVIDE THE LIBRARY "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 LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. 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 THE LIBRARY 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 LIBRARY (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 LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), 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 Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. 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 library's name and an idea of what it does.

Copyright © year name of author

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library 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 Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; 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.

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

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

signature of Ty Coon, 1 April 1990 Ty Coon, President of Vice.

OpenSSL LICENSE

Copyright © 1998-2006 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 (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

Original SSLeay License

Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com) All rights reserved. This package is an SSL implementation written by Eric Young (eay@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 adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

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

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes cryptographic software written by Eric Young (eay@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).



Samsung 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 Samsung 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。



制造商

SAMSUNG TECHWIN CO., LTD.

Samsungtechwin R&D Center, 701, Sampyeong-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea, 463-400
TEL : +82-70-7147-8740-60 FAX : +82-31-8018-3745

天津三星泰科光电子有限公司 广州分公司 (营业总部)

广州市天河区体育东路108号创展中心西塔1001室,
510620
Room 1001, West Tower, Chanzen Center, No.108 Tiyu
E.RD., Tianhe District, Guangzhou, 510620, China
联系电话: 020 38080038

天津三星泰科光电子有限公司

中国天津市西青区津港公路微电子工业区微六路
11号,300385
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