SAMSUNG TECHWIN

32 频道/
64 频道 NVR
用户手册

SRN-6450/3250
SNR-6400/3200

CE

SAMSUNG

32 频道/
64 频道 NVR
用户手册

版权

© 2011 Samsung Techwin Co., Ltd. 版权所有。

商标

SAMSUNG **SAMSUNG TECHWIN** 是 Samsung Techwin Co., Ltd. 的注册徽标。
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：

- 由于损坏的硬盘而导致数据遗失
- 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
- 由于病毒感染而导致数据遗失
- 使用时间长而导致性能下降或自然磨损
- 不影响产品性能或质量的感官现象（示例：工作噪声）

前言

感谢您选择三星 SVR 网络视频录像机（磁盘播放器）产品。

本说明手册提供 NVR 网络 DVR 产品的详细信息和说明。请在尝试安装和/或操作本产品之前仔细通读本手册和各种补充文档。

本手册的内容及相关软件和硬件受到版权法保护。除在版权法许可范围内合理使用本手册外，严禁任何未经 Samsung Techwin Co., Ltd. 许可复制和重印部分或全部用户手册，或将其翻译成其他语言。

出于产品改进的需要，本产品的规格可能会有所变动，恕不对此另行通知。

产品保修和有限责任

本产品的制造商不负责产品销售，同时也不会将销售责任委托给第三方。本产品保修不包括由于意外事故、疏忽、改装或误用本产品而造成的损坏。此外，本产品保修不包括任何非本产品制造商提供的组件或部件。

产品保修期为自购买之日起三年时间内。但是，本保修不包含以下问题，如需解决以下问题则会收取一定的服务费：

- 用户操作或处理不当。
- 用户对本产品进行过拆卸或改装。
- 由于连接不符合规格的电源而导致产品损坏。
- 由于不可抗力（火灾、水灾、海啸、自然灾害等）导致产品损坏。
- 更换耗材：HDD、风扇等。

  （HDD 和风扇保修期为自购买之日起一年时间内。）

本保修仅适用于提供保修的产品。

超出保修期（三年）后，所有产品检查和/或维修工作将收取服务费。在保修期内，对本产品进行保修范围以外故障维修和/或检查将收取服务费。

本产品不是防盗或防火设备；制造商不承担使用期间可能发生任何财产或人身伤害的责任。

本产品必须由具备相关技能和经验的人员安装；禁止用户自行安装。用户自行安装可能导致火灾、触电和/或产品工作不正常。请联系当地经销商获得本产品的安装帮助。

为适应固件和/或软件升级，本手册的内容可能会发生变化。出于产品改进的需要，本产品的规格和/或设计也可能会有所变动，恕不对此另行通知。

目录

前言 2

产品保修和有限责任 2

目录 4

第 1 章 概述 7

1.1. 安全注意事项 7

1.2. 产品清单 10

第 2 章 部件名称 11

2.1. 前面板 11

2.2. 后面板 13

2.3. 默认设置 14

2.3.1. 监控页面 14

2.3.2. 播放页面 14

2.3.3. 配置页面 15

2.3.4. 系统页面 18

第 3 章 安装 19

3.1. 安装和连接产品 19

3.1.1. 提供电源及操作本产品 19

3.1.2. 配置网络 19

3.1.3. 内部 HDD 20

3.1.4. 外部 HDD 23

3.1.5. 传感器 24

3.1.6. 继电器 25

3.1.7. USB 26

3.2. 连接到网站 26

3.2.1. 连接线缆 26

3.2.2. 添加 IP 地址 27
3.2.3. 连接和更改设置 29

第 4 章 操作 32

4.1. 系统需求 32
4.2. 兼容的 Web 浏览器 32
4.3. 登录 33
4.4. 监控 34
4.4.1. 分割屏幕和更改信道 34
4.4.2. 视频控制 35
4.4.3. PTZ 控制 35
4.4.4. OSD 控制 36
4.5. 播放 38
4.5.1. 时间搜索 38
4.5.2. 事件搜索 40
4.6. 配置 43
4.6.1. 状态 44
4.6.2. 拍摄设置 45
4.6.3. 事件设置 46
4.6.4. 摄像机设置 49
4.6.5. HDD 设置 53
4.6.6. 网络设置 59
4.6.7. 时间设置 64
4.7. 系统 66
4.7.1. 升级 67
4.7.2. 系统日志 69
4.7.3. 用户设置 72
4.7.4. 备份 73

第 5 章 LCD 设置 77

5.1. 系统 78
5.1.1. 检查固件版本 78
5.1.2. 打开/关闭蜂鸣声 78
5.1.3. 继电器关闭 79

5.1.4. 系统更新 79
5.1.5. 初始化设置 80
5.1.6. HDD 检查 81
5.1.7. 关闭系统 82
5.2. 网络设置 83
5.2.1. 监视器以太网端口 83
5.2.2. 源以太网端口设置 86
5.2.3. 存储以太网端口设置 87
5.3. HDD 模式设置 88
5.4. 取出 HDD 91
5.5. 格式化 HDD 92
5.5.1. 格式化单个内部 HDD 92
5.5.2. 格式化所有内部 HDD 93
5.5.3. 格式化单个外部 HDD 93
5.5.4. 格式化所有外部 HDD 94
5.5.5. 格式化所有 HDD 95
故障排除 96
产品规格 98
产品尺寸 100

第 1 章 概述

本数字视频录像机及磁盘播放器可为 64/32 信道数字视频提供 HDD 存储和播放能力。

本录像机设置简便；您可以使用本产品前方的按钮，或通过网络远程连接到本产品。

凭借经过验证的性能和可靠性，NVR 不仅自身足以作为视频录像机使用，而且还可作为需要高安全级别的银行、公寓建筑和公共办公室监控系统的理想视频输入存储。由于视频存储在硬盘上，所以从存储介质重复播放时丝毫不会降低图像质量。此外，由于所有视频数据作为数字文件存储，所以搜索非常简便快捷。

这款高分辨率视频录像机不仅能提供大容量存储能力，而且还提供大量方便用户使用的功能，例如：同时进行录像和播放功能、运动检测、PTZ（遥摄、倾斜、变焦）控制、密码、实时语音数据录制、使用钥匙锁轻松访问权限设置，以及维护高达 10,000 个事件列表和日志文件。

1.1. 安全注意事项

警告

以下信息或说明对用户安全至关重要；请仔细通读以避免严重受伤或死亡。

❖ 安装本产品

- ✓ 将电源连接到插座之前，请先检查电源插座电压 (AC 100V~240V)。
- ✓ 安装前请确保产品处于关闭状态。
- ✓ 为避免触电和/或火灾危险，请不要在潮湿环境中安装本产品。
- ✓ 请务必将本产品接地以减少触电危险。

❖ 使用本产品

- ✓ 打开或取下产品外壳可能会带来触电危险；除非是具备资格的技术人员，否则请不要打开或取下外壳。

- ✓ 为防止电火花，请不要将多条电源线连接到单个插座。
- ✓ 请不要在设备上放置重物或装水的花瓶，因为这样会导致严重故障。
- ✓ 请不要在充满天然气、汽油或其它可燃物质的地方使用本产品，以便避免引起爆炸或火灾危险。
- ✓ 为避免触电危险，请不要用湿手触摸电源插头。
- ✓ 请确保导电物质不会进入冷却通风口中。
- ✓ 请不要用力拉电源插头；损坏插头可能导致触电或火灾。

❖ 拆卸和清洗本产品

- ✓ 可能会出现故障、触电或其它危险。请不要拆卸或尝试自行修理或改装本产品。
- ✓ 请不要使用水、涂料稀释剂或其它有机溶剂清洗本产品，因为这样做可能导致产品故障和/或触电。清洗产品时，请使用干布擦拭设备表面。

注意

误用本产品或操作不当可能导致轻伤或损坏产品。此标志表示操作时必须当心。

❖ 安装本产品

- ✓ 安装本产品时，请将本产品的制冷通风口与墙壁之间至少保持 15 cm 的间隔，以便正常散热。
- ✓ 为防止用户受伤或产品损坏，请将本产品安装在水平表面上以避免产品掉落的风险。
- ✓ 请避免在高温或阳光直射的环境中安装本产品，因为可能会导致产品变形和/或损坏。
- ✓ 安装护罩时，请根据产品规格（参见“附录”），考虑安装环境的工作温度和湿度。

❖ 使用本产品

- ✓ 操作或移动本产品时，请避免撞击和震动。
- ✓ 请不要在使用过程中移动本产品；请不要强烈撞击或抛掷本产品。
- ✓ 如果想为产品添加硬盘，请联系您的供应商；添加非推荐硬盘可能导致产品功能异常。
- ✓ 任意向本产品添加硬盘将使产品保修无效。
- ✓ 本产品不是防盗或防火设备；制造商不承担可能发生任何财产或人身伤害的责任。

Samsung Techwin 在产品制造的各个环节都十分关注保护环境，并且采取大量措施以保证向客户提供更加环保的产品。

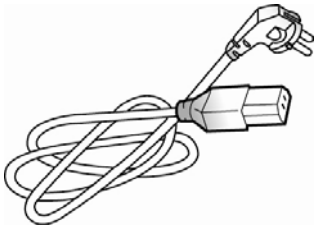
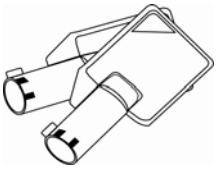
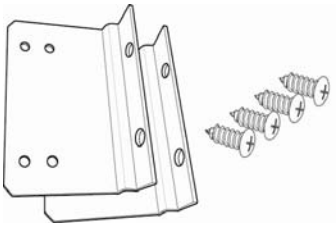
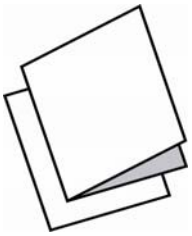
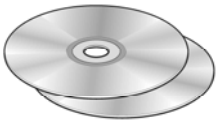
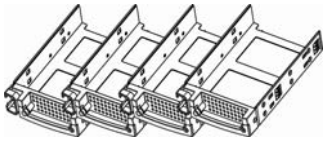
Eco 标志表明 Samsung Techwin 希望生产环保型产品，同时也表示该产品符合欧盟 RoHS 标准。

注意

三星泰科的刻录产品建议使用USP（稳压电源）。

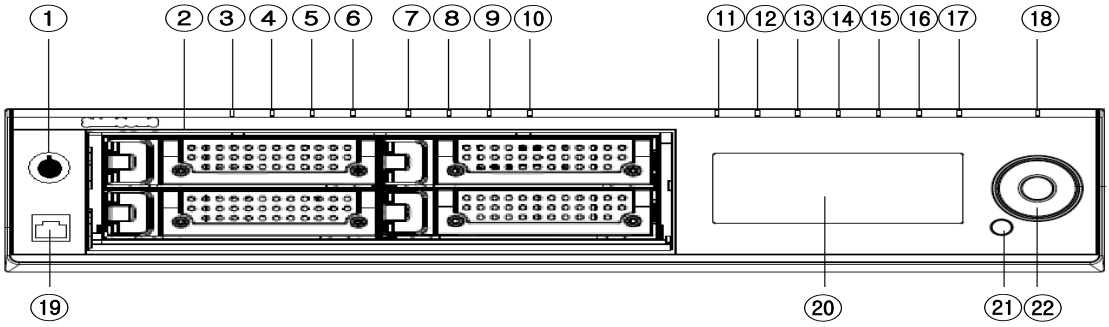
1.2. 产品清单

本产品清单如下所示。

 电源线	 钥匙	 机架安装件和固定螺栓
 HDD 固定螺栓	 用户手册	 快速参考指南
 **NET-I viewer/** 用户手册 **CD**	 双绞线	 **HDD** 托盘 **(4EA)**

第 2 章 部件名称

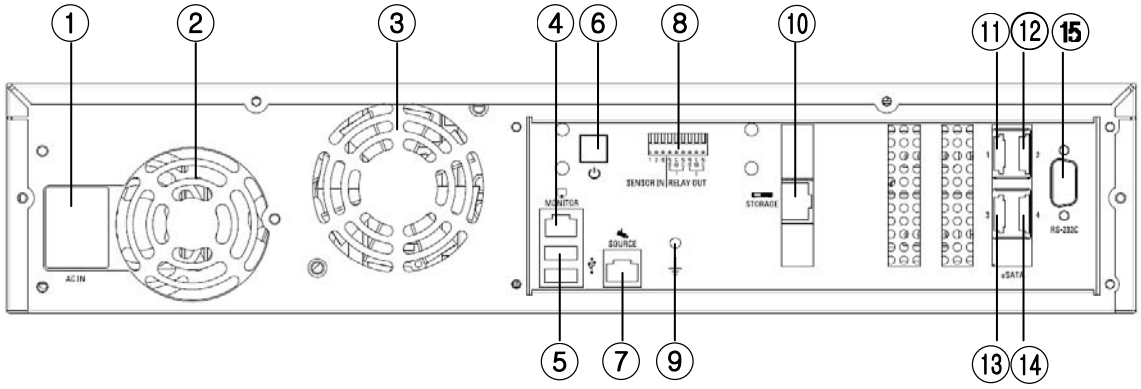
2.1. 前面板



编号	名称	功能
1	Key Lock	使用钥匙完全锁定，这样将无法访问前面板上的按钮，并且无法打开 HDD 仓门。
2	SATA-Bracket	用于安装存储拍摄视`频的硬盘。最多可安装四个硬盘。安装的 HDD 标记为内部 HDD1（左上方）、内部 HDD2（右上方）、内部 HDD3（左下方）和内部 HDD4（右下方）。
3	Internal HDD1	蓝色指示灯表示内部 HDD1 已安装且工作正常。红色指示灯表示内部 HDD1 工作不正常。
4	Internal HDD2	蓝色指示灯表示内部 HDD2 已安装且工作正常。红色指示灯表示内部 HDD2 工作不正常。
5	Internal HDD3	蓝色指示灯表示内部 HDD3 已安装且工作正常。红色指示灯表示内部 HDD3 工作不正常。
6	Internal HDD4	蓝色指示灯表示内部 HDD4 已安装且工作正常。红色指示灯表示内部 HDD4 工作不正常。
7	EXTERNAL HDD1	蓝色指示灯表示外部 HDD 已连接到尾部 eSATA 端口 1 且工作正常。红色指示灯表示外部 HDD1 工作不正常。
8	EXTERNAL HDD2	蓝色指示灯表示外部 HDD 已连接到尾部 eSATA 端口 2 且工作正常。红色指示灯表示外部 HDD2 工作不正常。
9	EXTERNAL HDD3	蓝色指示灯表示外部 HDD 已连接到尾部 eSATA 端口 3 且工作正常。红色指示灯表示外部 HDD3 工作不正常。
10	EXTERNAL HDD4	蓝色指示灯表示外部 HDD 已连接到尾部 eSATA 端口 4 且工作正常。红色指示灯表示外部 HDD4 工作不正常。
11	REC	红色指示灯表示本产品正处于记录模式。

编号	名称	功能
12	ALARM	蓝色指示灯表示已发生输入组中的事件。
13	ERROR	红色指示灯表示产品工作不正常。
14	RAID	蓝色指示灯表示本产品正运行在 RAID 模式。
15	LINK/ACT1	闪烁的蓝色指示灯表示网络线缆已正确连接到“监视器以太网端口”，并且数据通信正常。
16	LINK/ACT2	闪烁的蓝色指示灯表示网络线缆已正确连接到“源以太网端口”，并且数据通信正常。
17	LINK/ACT3	闪烁的蓝色指示灯表示网络线缆已正确连接到“存储以太网端口”，并且数据通信正常。
18	POWER	红色指示灯表示产品开机。
19	Config Ethernet Port	用于将产品连接到计算机以便进行系统配置。
20	LCD Panel	该面板显示产品的当前状态；它还可与相邻的按钮一起更改系统配置。
21	ESC Button	该按钮用于更改系统配置。“第 5 章 LCD 设置”将详细介绍该按钮的用途。
22	Direction Button Enter Button	该按钮用于更改系统配置。“第 5 章 LCD 设置”将详细介绍该按钮的用途。

2.2. 后面板



编号	名称	功能
1	AC IN	用于连接产品电源线。
2	SMPS FAN	该风扇用于冷却电源。
3	DC FAN	该风扇用于冷却产品内部。
4	Monitor Ethernet Port	使产品能够连接到 PC 以便运行 Web Viewer（网络查看器）的网络端口。
5	USB Port	用于升级产品的固件版本。
6	Power Button	打开或关闭产品。
7	Source Ethernet Port	连接产品和视频摄像机的网络端口。
8	SENSOR IN / RELAY OUT	用于连接传感器或警报器。
9	GROUND	用于将框架接地到外部设备的端子。
10	Storage Ethernet Port	用于连接相同网络内的 NAS（网络附加存储）。
11	eSATA Port1	用于连接外部 HDD。
12	eSATA Port2	用于连接外部 HDD。
13	eSATA Port3	用于连接外部 HDD。
14	eSATA Port4	用于连接外部 HDD。
15	RS232C Port	未使用的端子。

2.3. 默认设置

以下是产品的出厂默认设置。

2.3.1. 监控页面

主菜单	子菜单	默认设置
Auto Sequence（自动顺序）		Off（关）
Display Mode（显示模式）		16Ch display（16 信道显示）
Group（分组）		1
Channel（信道）		1
Info（信息）		On（开）
DIT		Off（关）
PT, ZF		PT Activated（PT 激活）
OSD		Off（关）
PTZ speed（PTZ 速度）		3

2.3.2. 播放页面

主菜单	子菜单	默认设置
Time（时间）	Channel（信道） Calendar（日历） Time（时间）	- - -
Event（事件）	Event Type（事件类型） Channel（信道） Date / Time（日期 / 时间）	- - -

2.3.3. 配置页面

❖ 拍摄设置

主菜单	子菜单	默认设置
Normal Record Config （正常拍摄配置）		All frames（所有帧）
Event Record Config （事件拍摄配置）	Input Group（输入组） Active（活动） Inactive（非活动） Pre Recording Time Post Recording Time	own event（自身事件） All frames（所有帧） I frames（I 帧） 5 Sec（5 秒） 5 Sec（5 秒）
Record（拍摄）	Button（按钮） Time Table（时间表）	Normal Record selected （选择正常拍摄） Always Normal Record （始终正常拍摄）

❖ 事件设置

主菜单	子菜单	默认设置
Local Sensor Type （本地传感器类型）	Sensor1（传感器 1） Sensor2（传感器 2）	Normal Open（正常开路） Normal Open（正常开路）
Event Group（事件组）	Input Group（输入组） Output Group（输出组） Action Group（活动组）	- - -

❖ 摄像机设置

主菜单	子菜单	默认设置
Channel List （信道列表）	Open Channel List （开启信道列表） Select Channel（选择信道）	Ch1 ~ Ch16（信道 1 ~ 信道 16） Ch01（信道 01）
Channel Setup （信道设置）	Disable/Enable（禁用/启用） Channel Name（信道名称） Model（型号） Connection Type IP Connection Port ID Password（密码） Picture Type（图像类型） ATC Mode（ATC 模式） Video Quality（视频质量） Video Resolution Video Framerate	Disable（禁用） Ch01、Ch02、 Ch03… - Static IP（静态 IP） 0.0.0.0 4000 - - MPEG Off（关） High（高） D1 10

❖ HDD 设置

主菜单	子菜单	默认设置
HDD	Repeat Recording （重复拍摄）	On（开）
Auto Deletion（自动删除）	Mode（模式）	Off（关）
	Duration（持续时间）	180
RAID Mode（RAID 模式）		Normal（正常）
NAS Configuration （NAS 配置）	Nas Port（Nas 端口） Use（使用） Name（名称） Default Folder（默认文件夹） IP ID Password（密码）	Nas1 Disable（禁用） - - 0.0.0.0 - -

❖ 网络设置

主菜单	子菜单	默认设置
Monitor Ethernet Port （监视器以太网端口）	Connection Type（连接类型） IP Address（IP 地址） Subnet Mask（子网掩码） Gateway（网关） Connection Port（连接端口） Http Port（Http 端口） ATC Mode（ATC 模式）	Static IP（静态 IP） 0.0.0.0 0.0.0.0 0.0.0.0 4000 80 Disable（禁用）
DDNS	Use（使用） Server Domain（服务器域） ID Password（密码）	Disable（禁用） www.samsungipolis.com - -
Source Ethernet Port （源以太网端口）	Connection Type（连接类型） IP Address（IP 地址） Subnet Mask（子网掩码） Gateway（网关）	Static IP（静态 IP） 0.0.0.0 0.0.0.0 0.0.0.0
Source DHCP Server （源 DHCP 服务器）	Use（使用） IP Range（IP 范围）	Disable（禁用） 0.0.0.0 ~ 0.0.0.0
Storage Ethernet Port （存储以太网端口）	Connection Type（连接类型） IP Address（IP 地址） Subnet Mask（子网掩码） Gateway（网关）	Static IP（静态 IP） 0.0.0.0 0.0.0.0 0.0.0.0
DNS	DNS1 DNS2	168.126.63.1 168.126.63.2
RTP/RTSP	Use RTSP（使用 RTSP） RTSP Port（RTSP 端口） RTP Port（RTP 端口） Use Multicast（使用多播） Multicast Address	Disable（禁用） 554 4000 Disable（禁用） 224.0.1.1
E-Mail（电子邮件）	SMTP Server Name Use Authentification ID Password（密码） E-Mail To（电子邮件收件人）	- Yes（是） - - -

❖ 时间设置

主菜单	子菜单	默认设置
Time Configuration（时间配置）	Date Format（日期格式） Time Format（时间格式） Time Zone（时区） Use DST（使用 DST）	mm.dd.yy（月.日.年） 24h（24 小时制） (GMT 00:00) Greenwich Mean Time Disable（禁用）
NTP	Use Client（使用客户端） Use Server（使用服务器） Public Server1 Address Public Server2 Address Public Server3 Address Public Server4 Address Public Server5 Address	Disable（禁用） Disable（禁用） pool.ntp.org asia.pool.ntp.org europe.pool.ntp.org north-america.pool.ntp.org time.nist.gov

2.3.4. 系统页面

❖ 用户

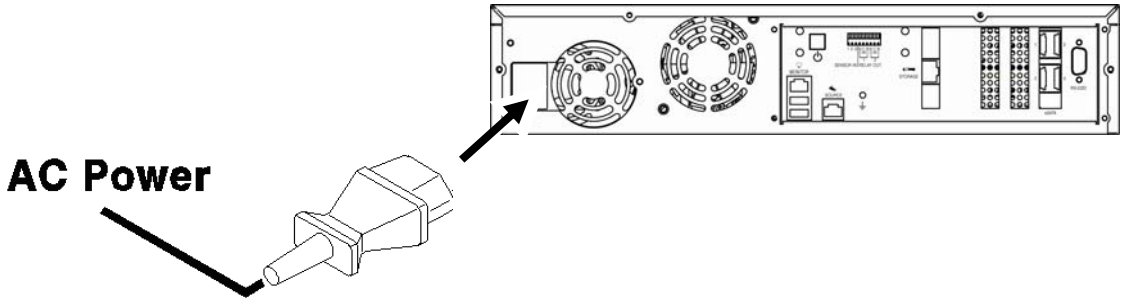
主菜单	子菜单	默认设置
Admin（管理员）	Password（密码）	11111111
User（用户）	ID Password（密码） Authority（权限）	user 22222222 Only Monitoring is Allowed.

第 3 章 安装

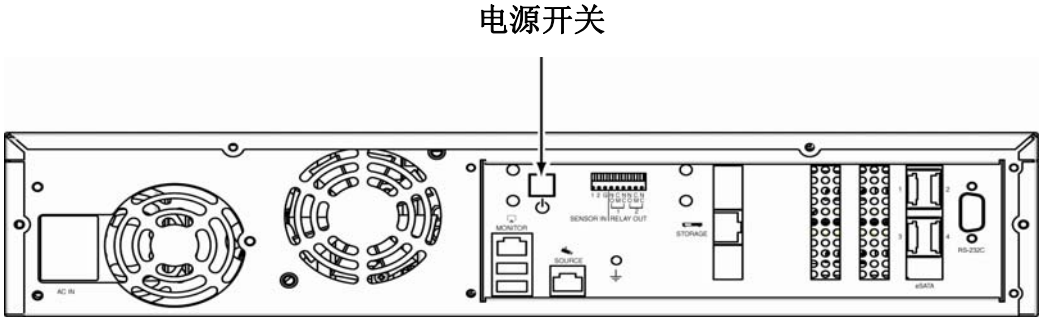
3.1. 安装和连接产品

3.1.1. 提供电源及操作本产品

如下图所示将电源线连接到产品。



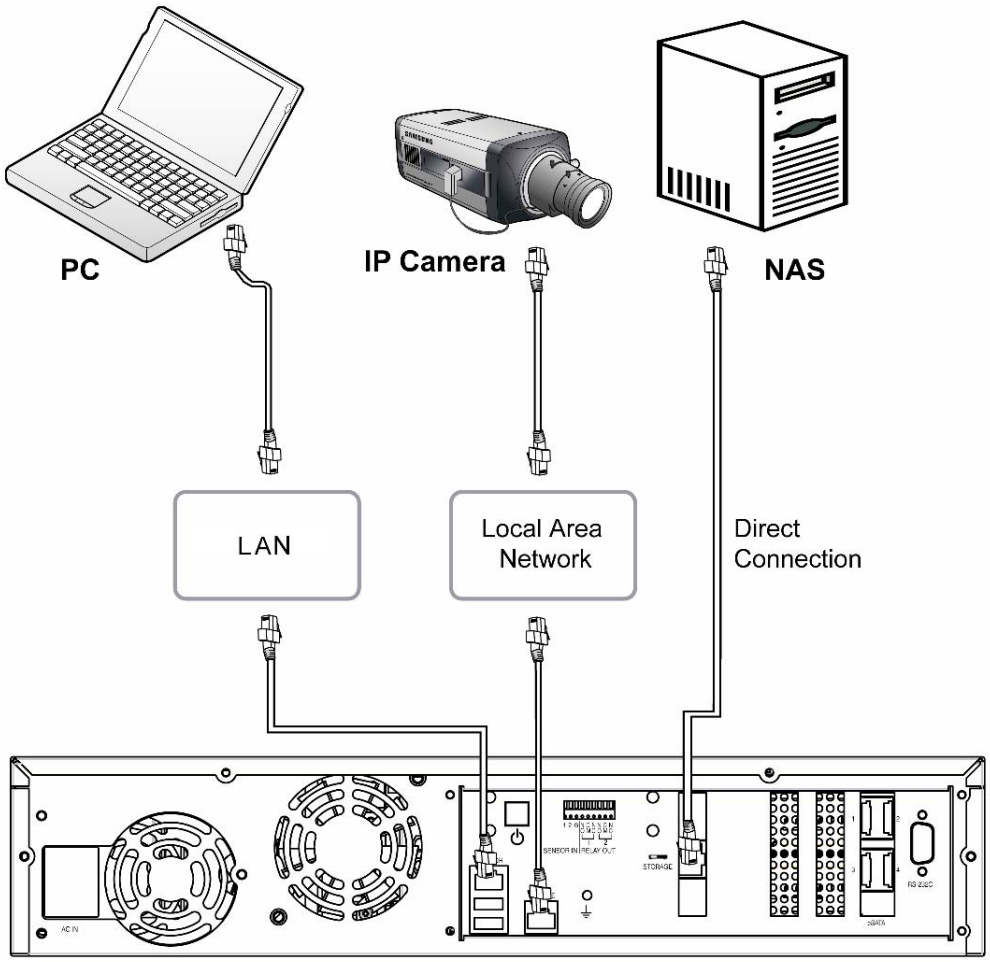
- 当电源线安全连接后，按后面板上的电源开关启动系统。
- 产品开机时，只需按电源开关即可关闭产品。
- 当系统遇到故障无法正常关闭时，可以按住电源开关五秒钟强制关闭系统。



3.1.2. 配置网络

下图是使用 NVR 的网络图示例。产品后面板上的 3 个网络端口分别用于连接计算机、摄像机和 NAS（网络附加存储）请参考 “2.2. 后面板”

后面板网络端口可用于连接相同网络中的设备，或者连接不同网络中的设备，如示例图所示。

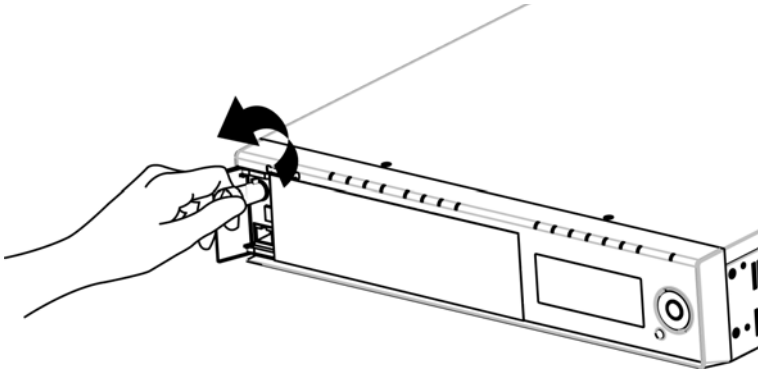


3.1.3. 内部 HDD

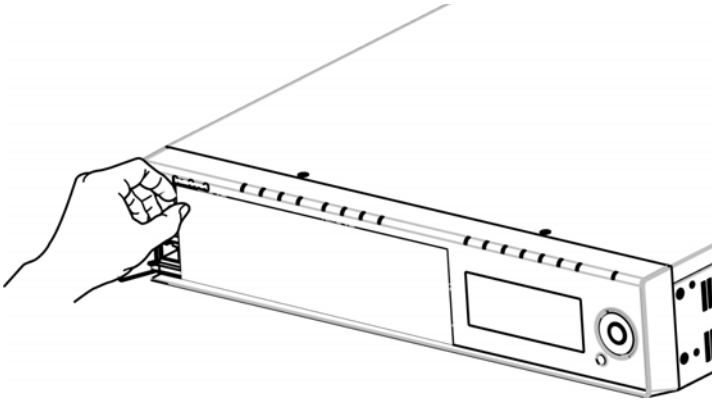
按如下所示步骤打开 HDD 仓，以便添加、取下或更换内部 HDD。

① 按 PUSH ⠿ 打开锁定门。

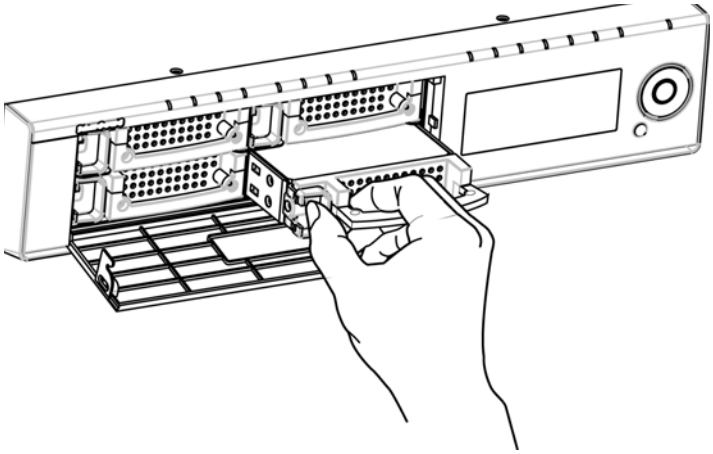
② 逆时针方向旋转钥匙锁以便解锁。



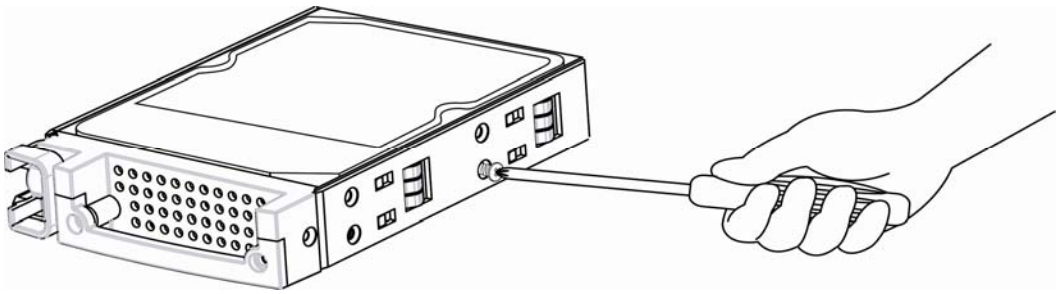
③ 打开 HDD 仓门。



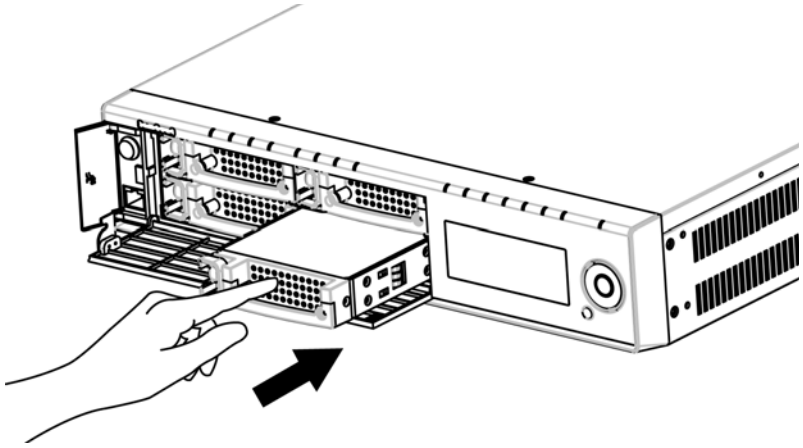
④ 按下 HDD 钩子的同时，通过拉手柄拉出 SATA 托架。



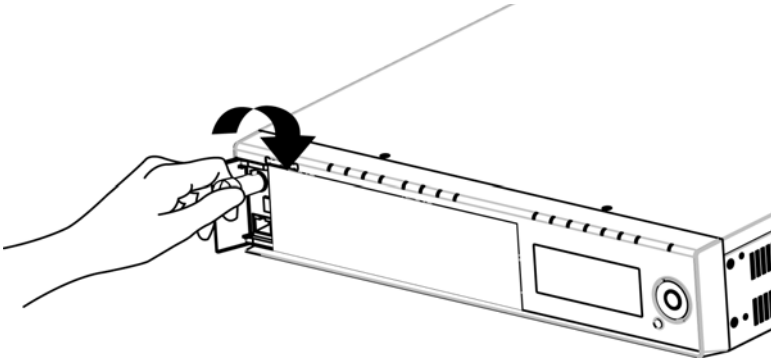
⑤ 取下 HDD 之前应先拧下 SATA 托架上的固定螺栓；将 HDD 插入 SATA 托架后应将螺栓拧紧。



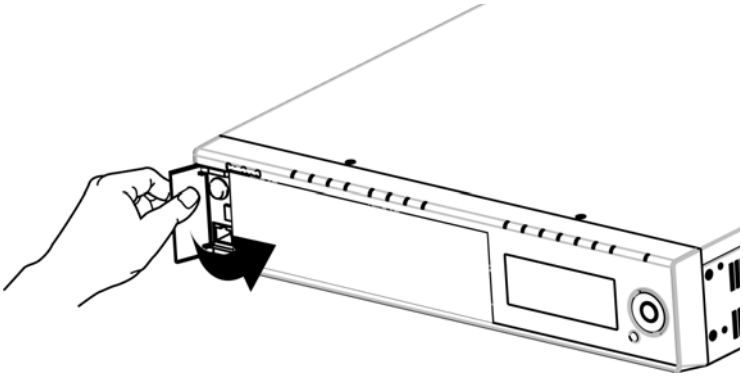
⑥ 确保 SATA 托架完全推回到 HDD 仓，然后关闭 HDD 仓门。



⑦ 顺时针方向旋转钥匙锁以便锁定。



⑧ 关闭锁定仓门。



⑨ 当添加新的未格式化 HDD 时，本产品会自动格式化该 HDD。

```
Formatting HDD
   is in Progress...
```

在前 LCD 上显示格式化过程。

```
Internal HDD [2]
Added successfully!
```

完成格式化过程后，LCD 将显示上面的消息，并且 HDD LED 亮起蓝色指示灯，表示新的 HDD 已准备就绪可以使用。

注意

有关兼容 HDD 的列表，请参考第 ※ 推荐的 HDD

注意

请勿在产品工作过程中取出 HDD。要安全取出 HDD，请参考 “5.4. 取出 HDD”

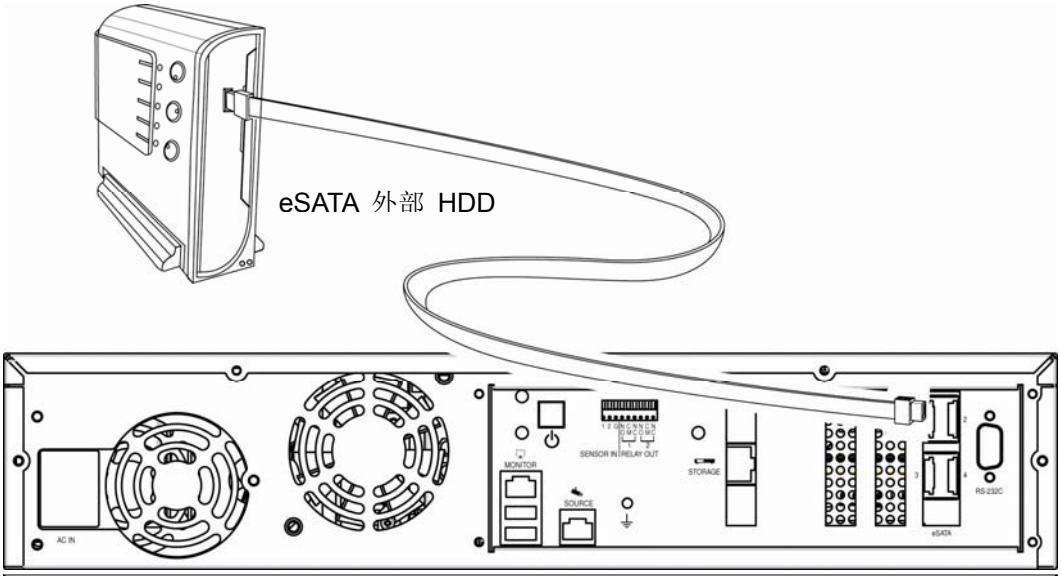
注意

要锁定 HDD 仓门，请确保顺时针方向旋转钥匙锁到底。

3.1.4. 外部 HDD

NVR 支持 eSATA 接口以连接外部存储设备；后面板上有四个 eSATA 端口。利用内部 HDD 和 eSATA 端口，本产品最高可提供 20 TB 的存储容量。（按照每个 HDD 1TB 数据容量计算。）

外部 eSATA HDD 可以连接到后面板上的 eSATA 端口，如下页所示。请注意 eSATA 端口不会为所连接得设备供电；外部设备必须提供其自身的电源。



注意

- 可以在产品工作过程中连接外部 HDD。但这样做可能导致无法检测到某些型号的外部 HDD。因此，建议采用下面列出的步骤连接外部 HDD。
  1. 关闭产品电源。
  2. 使用 eSATA 接口线缆将外部 HDD（关闭电源）连接到本产品。
  3. 打开外部 HDD 电源。
  4. 打开产品电源。
- 本产品不包含 eSATA 线缆。

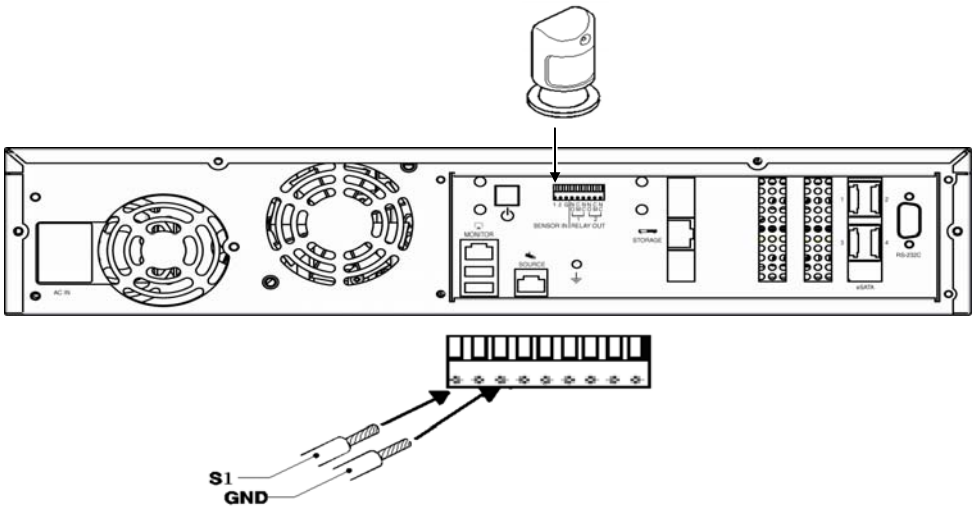
有关兼容 HDD 的列表，请参考第 请参考 “※ 推荐的 HDD“

3.1.5. 传感器

以下传感器输入的规格和工作条件。

规格	输入电路数量	2
	输入类型	N.C、N.O
	支持的传感器类型	干式接点传感器。
	连接类型	将拨开的电缆接头连接到接线端子。
电源	直流	150V
	输出电流	典型直流 12mA

请参考下页的图连接传感器输入。它显示连接到产品的干式接点传感器示例。



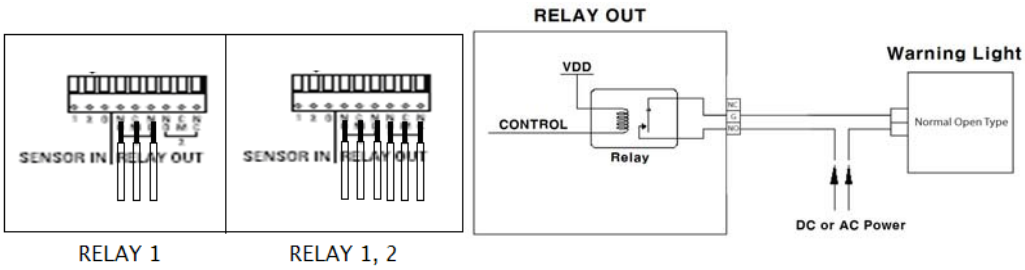
有关连接传感器的详细说明，请参考 “4.6.3. 事件设置“

3.1.6. 继电器

以下警报器输出的规格和工作条件。

规格	输入电路数量	2 继电器
	输出类型	干式接点。
	连接类型	将拨开的电缆接头连接到接线端子。
电源	直流	30V 1A
	交流	125V 0.5A

当连接中继输出时，首先确定所连接设备的属性（正常开路或正常闭路），然后参考下图连接设备。



中继器输出 1	NC	CM	NO
正常闭路	O	O	-
通用	-	O	-
正常开路	-	O	O

中继器输出 2	NC	CM	NO
正常闭路	O	O	-
通用	-	O	-
正常开路	-	O	O

有关连接中继器输出的详细说明，请参考 “4.6.3. 事件设置“

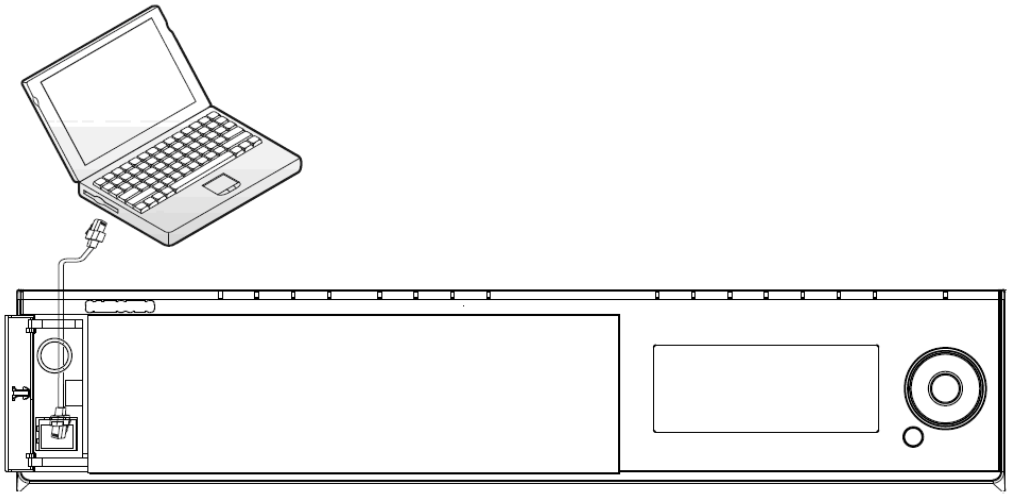
3.1.7. USB

后面板上的 USB 端口配合前面板上的按钮可用于升级产品的固件。请参考 “5.1.4. 系统更新“

3.2. 连接到网站

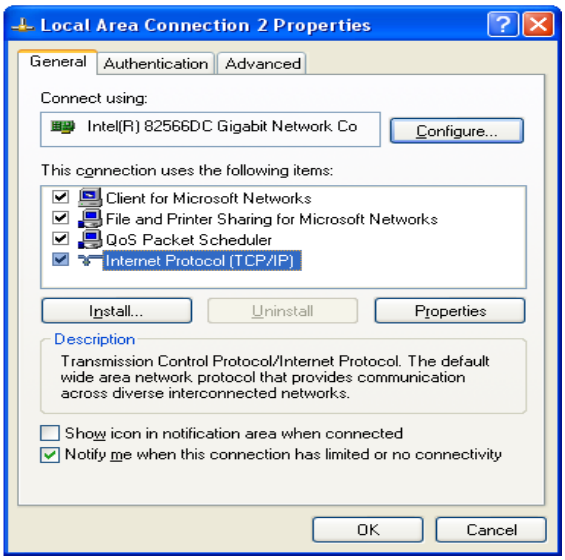
3.2.1. 连接线缆

按前面板上的 PUSH ⠿ 打开锁定仓门，然后用随产品提供的反转双绞线将 PC 连接到前面板网络端口，如下图所示。（当使用集线器将产品连接到计算机时，可以使用一般的 LAN 线缆代替反转双绞线。）

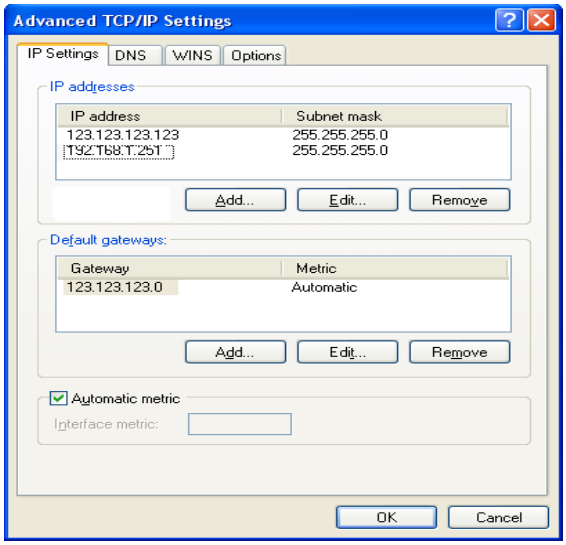


3.2.2. 添加 IP 地址

在计算机上，单击 Start（开始） > Control Panel（控制面板） > Network Connections（网络连接） > Local Area Connection（局域网连接）> Properties（属性）。



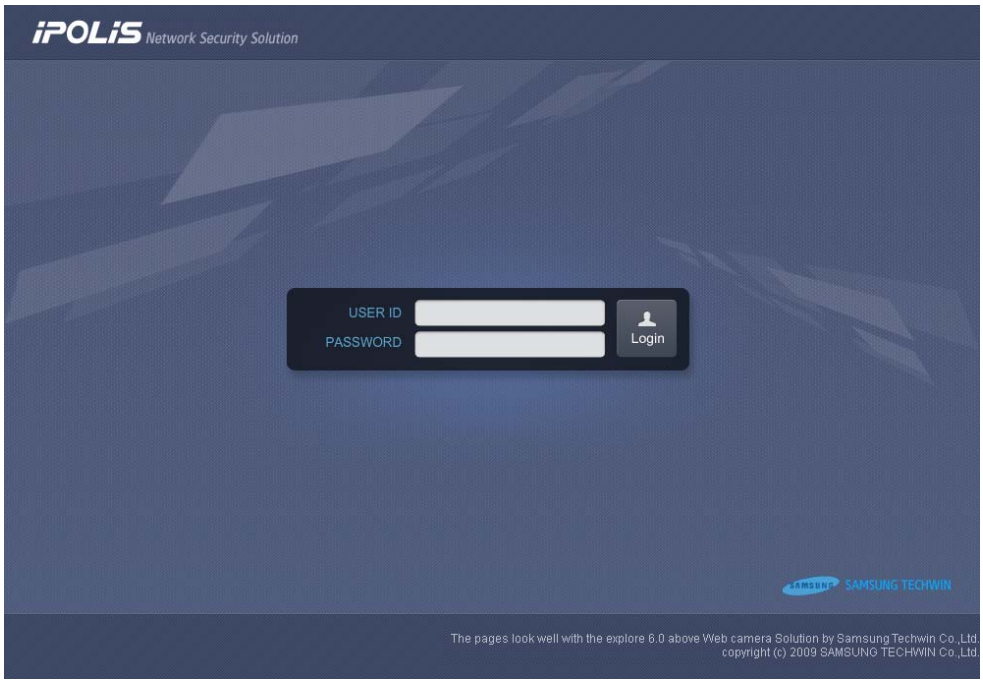
选择 Internet 协议 (TCP/IP)。单击 Internet Protocol (TCP/IP) Settings（Internet 协议 (TCP/IP) 设置）对话框中的 Properties（属性）按钮，单击 Advanced（高级）按钮打开 Advanced TCP/IP Settings（高级 TCP/IP 设置）对话框。（如果选中 Internet Protocol (TCP/IP) Properties（Internet 协议 (TCP/IP) 属性）窗口中的“Obtain an IP address automatically（自动获取 IP 地址）”选项，请在继续前单击“Use the following IP address（使用以下 IP 地址）”单选按钮选项。）



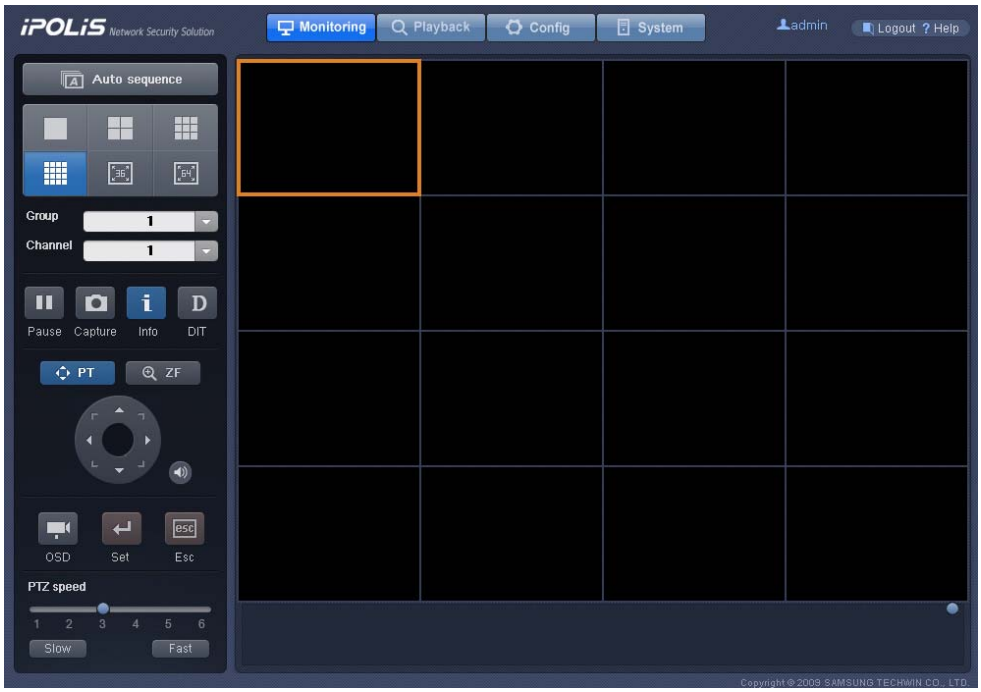
单击 IP addresses（IP 地址）下方的 Add（添加），然后输入 192.168.1.xxx。NVR 使用 192. 168. 1. 100 作为 IP 地址；不能使用该地址作为计算机的内部 IP 地址。

3.2.3. 连接和更改设置

在 Internet 浏览器地址栏中键入 192.168.1.100，然后按 Enter。

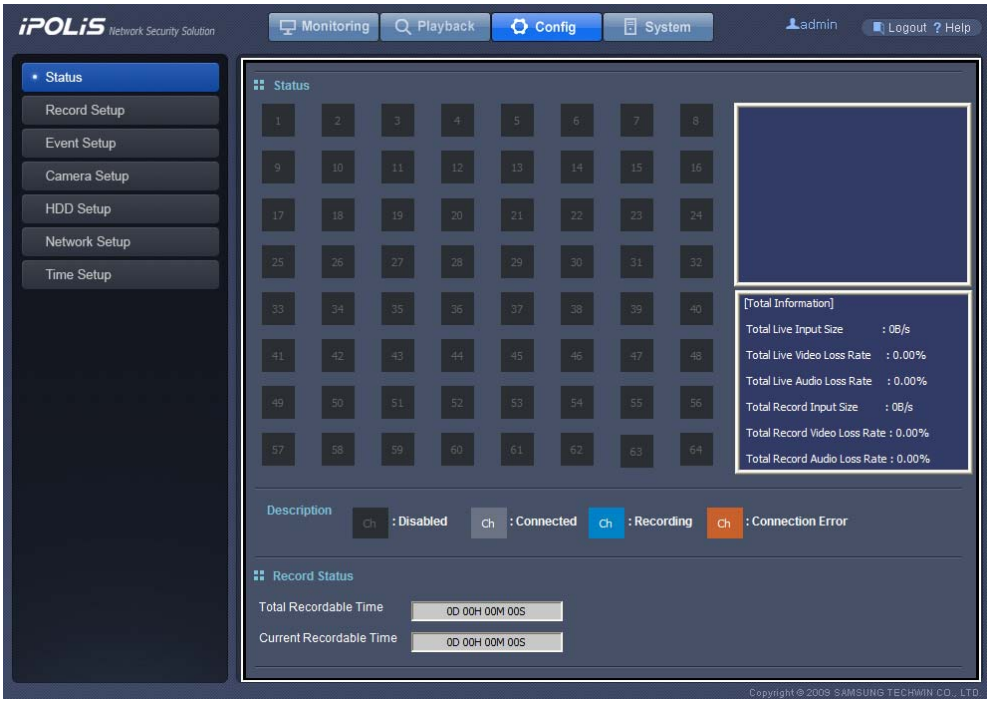


在登录窗口中，为 User ID（用户 ID）输入 admin 并在 Password（密码）中输入 11111111。单击 Login（登录）连接到产品。

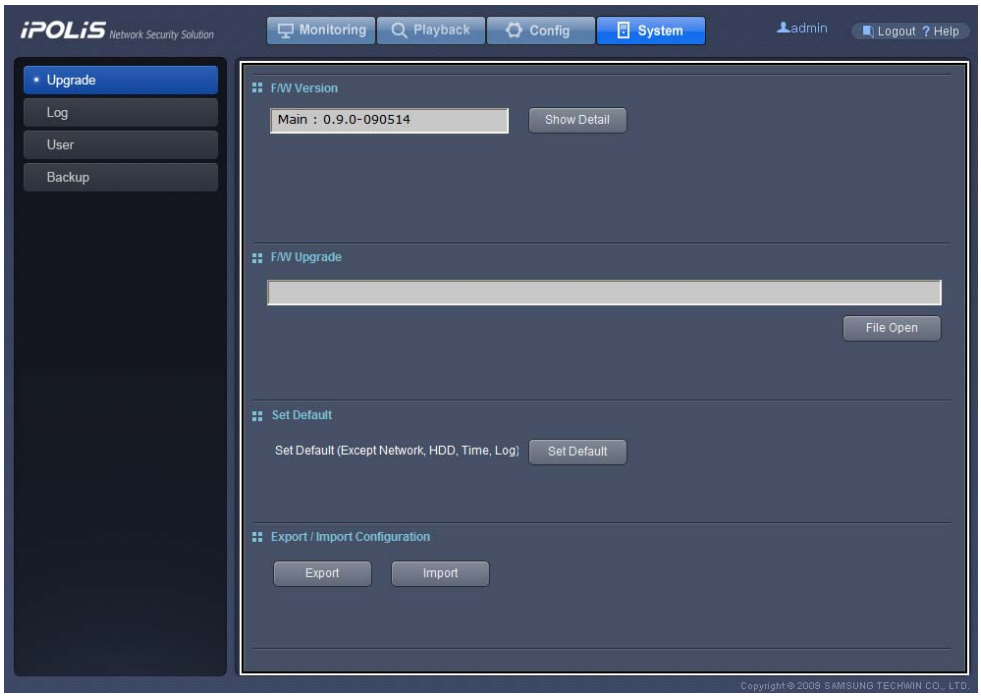


第一次连接到产品时，由于没有设置网络或摄像机，所以不会显示视频。

单击屏幕顶部的 Config 将转到新的页面，如下面的屏幕快照所示。



单击 System 将转到新的页面，如下面的屏幕快照所示。



使用左边的菜单设置产品。有关每个菜单项的详细说明，请参考第 43 页和第 66 页。网络设置完成后，可以使用产品后面板上的“监视器以太网端口”连接到产品。

注意

- 前端口的 IP 地址固定设置为 192.168.1.100；该值不可更改。

强烈建议您尽快更改默认管理员密码 (Admin PW)。有关更改密码的说明，请参考 “4.7.3. 用户设置“

第 4 章 操作

4.1. 系统需求

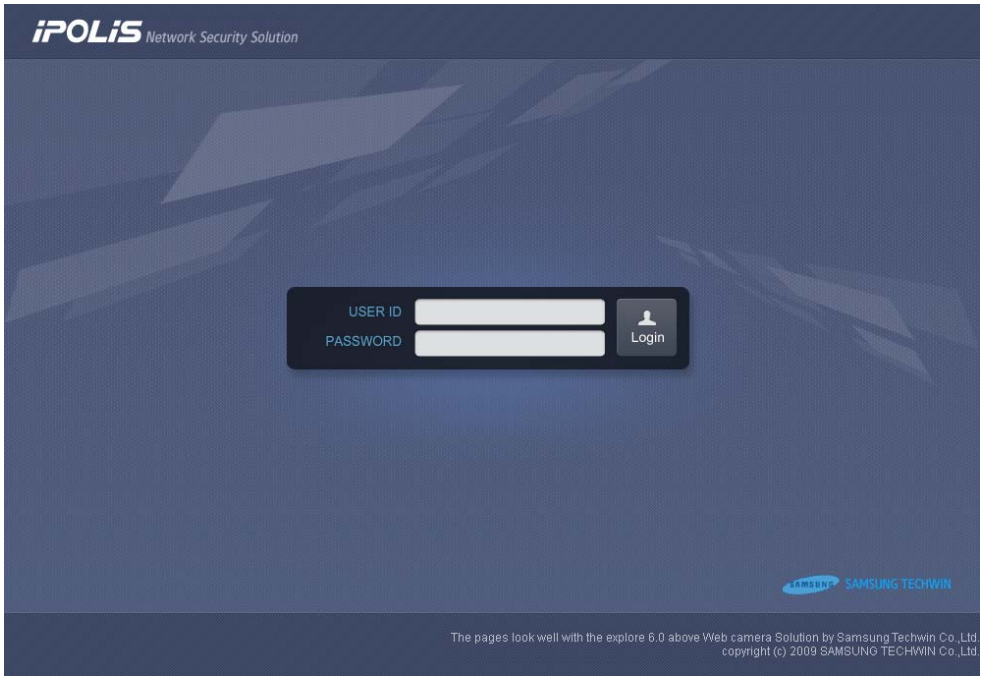
类别	最低	推荐
CPU	Intel Core 2 Quad 2.5GHz 或更快	i7 或更高
内存	3GB	4GB 或更高
显存	512MB	1GB 或更高
显示器分辨率	1,280 x 1,024	
硬盘	1GB 或更高	
操作系统	Windows XP Professional / Windows Vista Business/ Windows 7	
网络	Gigabit Ethernet	
其他功能	DirectX 9.0 或更高	

4.2. 兼容的 Web 浏览器

Web Viewer 为 Windows Internet Explorer 6.0 及更高版本进行过优化。必须在 PC 中安装 Microsoft Internet Explorer 6.0 或更高版本以确保 Web Viewer 能够正常工作。

4.3. 登录

打开 Web 浏览器，然后输入产品的 IP 地址。随即将转到登录页面。输入您的 ID 和密码，然后单击 Login（登录）按钮连接到系统。随即将转到 Monitoring（监控）页面。如果尚未设置您自己的 ID 和密码，则默认 ID 是“admin”，默认密码是“11111111”（不包括引号）。有关更改 ID 和密码的说明，请参考 “4.7.3. 用户设置”



注意

- 要使用前面板上的网络端口连接到产品，请确保输入 192.168.1.100。要使用后面板上的“监视器以太网端口”连接到产品，请确保输入分配给该端口的 IP 地址。
- 要连接的端口和计算机必须处于相同网络中。
- 对于 HTTP 端口号不是 80 的情况，访问地址是 http://<IP 地址>:<HTTP 端口号>。
  例如，如果 IP 地址是 192.168.1.110，且 HTTP 端口号是 8080，则 Web Viewer 的地址是 http://192.168.1.110:8080。

有关更改“监视器以太网端口”IP 地址的说明，请参考 “4.6.6. 网络设置“

4.4. 监控

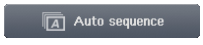
如果第一次登录网络视频摄像机，或者单击 Web Viewer 顶部的

按钮，您将转到 Monitoring（监控）页面，在该页面中可以查看连接到产品的摄像机的视频输入。

4.4.1. 分割屏幕和更改信道

可以通过单击屏幕左上方的 按钮选择要同时显示在屏幕上的视频输入数量。可以选择同时在屏幕上显示 1、4、9、16、36 或 64 个信道的视频输入；要显示 36 或 64 信道视频输入将打开单独的浏览器窗口。当显示 1~36 个信道时，信道将分组显示以管理可见性。

例如，如果正同时查看 16 个信道，则信道 1~16 将在分组 1 中显示，而信道 17~32 将在分组 2 中显示，以此类推。

用于选择想要查看的分组或信道；要按顺序查看所有信道，可以单击 

按钮激活 Auto Sequence（自动顺序）选项，该选项将以 7 秒钟为间隔循环显示不同分组的视频。当前信道的日志在屏幕底部：事件（MD、V-Loss）、主框架传感器和中继器事件。要检查日志，可以向上或向下移动窗口右侧的 按钮。事件的名称（例如 ‘MD’、’V-Loss’ 等）将显示在发生该事件的信道视频上。

4.4.2. 视频控制

当单击某个视频信道时，选定的屏幕将以橙色突出显示。选定某个信道时，可以使用页面左侧的按钮控制该信道的视频输入。

- 按钮：暂停或恢复选定信道的视频输入。
- 按钮：截取当前屏幕的屏幕快照，并将其另存为 JPG 图像文件。
- 按钮：显示视频屏幕上信道的名称和当前时间。
- 按钮：激活或禁用信道视频的 Deinterlace（隔行扫描）选项。

将光标放在图像上，然后右键单击它以显示音频上下文菜单。

- **Audio（音频）**：该选项与单击屏幕左侧 按钮的作用相同。将播放当前选定信道的音频。出现图标（ ）表示音频输入来自哪个信道；还可以单击 调整音量。
- **Preset（预设）**：在信道视频屏幕显示 PS。单击 PS 可以选择预设。预设是为 PTZ 摄像机事先选择的角度和变焦操作。选择某个预设将使摄像机返回到以前的角度和变焦设置。NVR 仅支持加载现有的预设。要创建新的预设，必须手动在 PTZ 摄像机中进行设置。

4.4.3. PTZ 控制

单击屏幕上显示的某个信道将会在该信道周围出现橙色的边框以表示该信道已被选定。选定某个信道时，可以使用页面左侧的按钮控制该信道摄像机的 PTZ（遥摄、倾斜、变焦）。

PT 更改摄像机面对的方向。单击该按钮将显示圆形按钮，如右图所示。单击圆形按钮上的方向可以在该方向上遥摄摄像机。

ZF 调整选定摄像机的变焦和对焦。单击该按钮将显示圆形按钮，如右图所示。单击 和 可以进行缩放；单击 和 可以调整对焦。

单击圆形按钮旁边的 按钮可以播放选定信道的音频输入。该按钮与右键单击上下文菜单中的 Audio（音频）选项的作用相同。

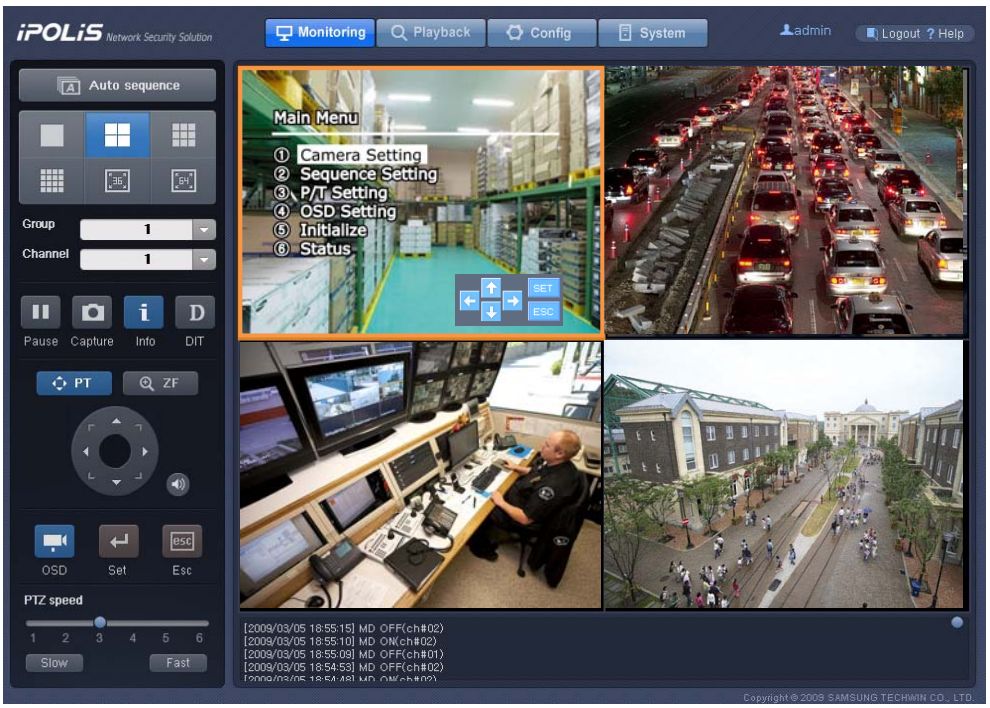
可以使用页面底部的滑动球调整 PTZ 速度。共有 6 个 PTZ 速度级别可供选择。单击 Slow 可以将 PTZ 速度降低一个级别，单击 Fast 可以提高一个级别。"1" 是最慢的 PTZ 速度设置，而 "6" 为最快速度。

注意

只有启用 PTZ 的摄像机才提供 PTZ 控制和预设选项。

4.4.4. OSD 控制

当单击某个信道视频时，选定的屏幕将以橙色突出显示表示它已被选定。要显示选定信道的摄像机 OSD，可以单击屏幕左侧的 按钮。



要控制 OSD 菜单，可以单击视频屏幕底部的

按钮。要在 OSD 菜单间移动和更改设置，可以使用箭头按钮。要移动到子菜单或应用新设置，可以单击 SET（设置）按钮。要返回上一级菜单，可以单击 ESC（退出）按钮。除视频屏幕上的 SET（设置）和 ESC（退出）按钮外，还可以使用 按钮旁边的 和 按钮执行相同的功能。有关设置 OSD 的详细说明，请参考用户手册了解相应的摄像机设置。

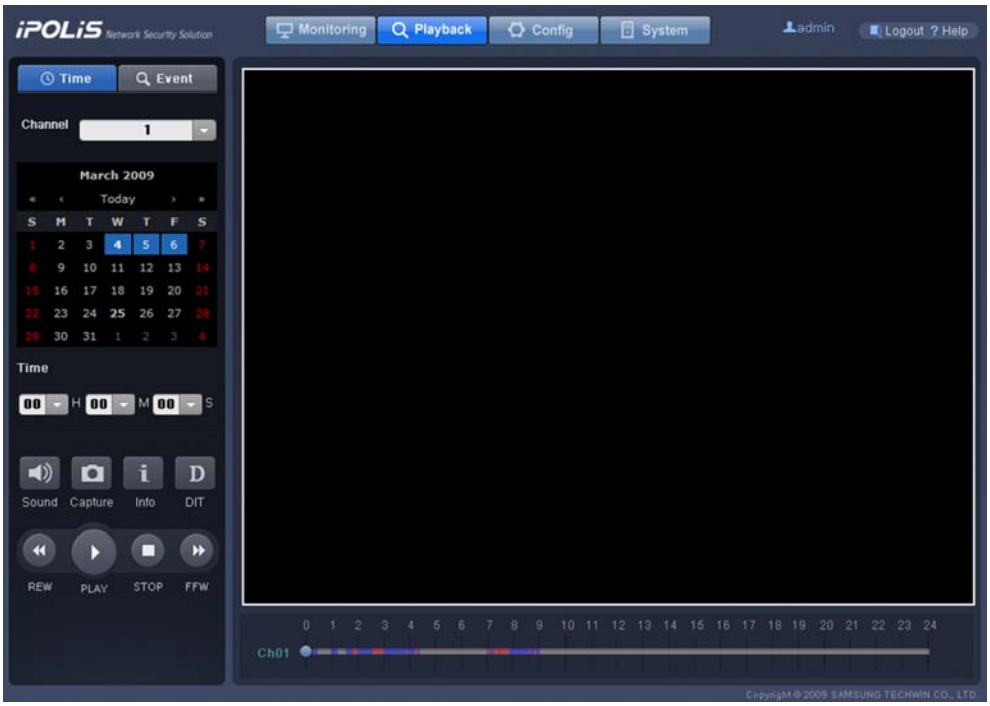
注意

控制 PTZ 操作，预设和 OSD 在 AXIS 摄像机中不可用。

4.5. 播放

单击屏幕顶部的 Playback 可以显示 Playback（播放）屏幕。该屏幕可查看已保存的视频。使用 Playback（播放） 选项有两种方式： Time 可以按拍摄时间和日期搜索和查看视频，而 Event 可以根据已发生的事件查看视频。第一次连接到 Playback（播放）屏幕时，默认出现 Time Search（时间搜索）菜单。

4.5.1. 时间搜索



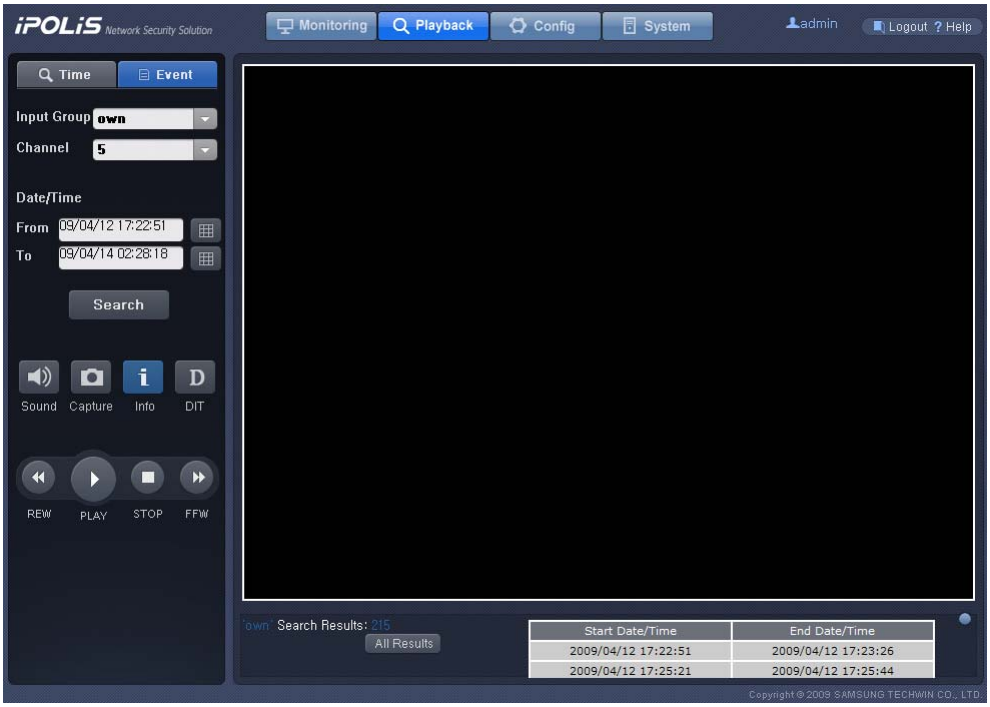
- Channel（信道）：启用选择的信道。
- 为方便查看视频，可以在 Channel（信道）按钮下方的日历中选择一个日期。包含视频的日期以蓝色显示，例如 4 5
- 00 H 00 M 00 S Time（时间）区域：当视频屏幕暂停时，选择一个时间并单击 Play（播放）按钮将播放该时间的视频。当正在播放视频时，Time（时间）区域显示拍摄该视频的时间。
- Sound（声音）按钮：打开或关闭当前视频的音频。
- Capture（截屏）按钮：以 JPG 格式截取当前屏幕的屏幕快照。
- Info（信息）按钮：显示当前视频的信道名称和拍摄时间。
- DIT（隔行）按钮：激活或禁用当前视频的 Deinterlace（隔行扫描）选项。

- REW（回放）和 FFW（快进）按钮：回放、快进和调整当前视频的播放速度。当正在播放视频时，该按钮将变为 8X、4X、2X、1X、1X、2X、4X 和 8X，表示播放的方向和速度。可调整的播放速度为 1x、2x、4x 和 8x 快退和快进。每次按 REW（回放）或 FFW（快进）按钮时，播放速度将变化一个级别。

  （不支持逐帧播放或移动。)
- PLAY（播放）按钮：播放视频。当正在播放视频时，该按钮将变为 PAUSE（暂停）按钮。单击 PAUSE（暂停）按钮可以暂停当前视频。
- Stop（停止）按钮：停止视频。
- 移动播放屏幕下方的 滑动球可以定位到指定的视频时间。时间条上以蓝色突出显示的时间包含视频，而以红色突出显示的时间包含事件视频。

4.5.2. 事件搜索

显示 Event Search（事件搜索）屏幕，如下图所示。有关事件的详细信息，请参考请参考 “4.6.3. 事件设置“

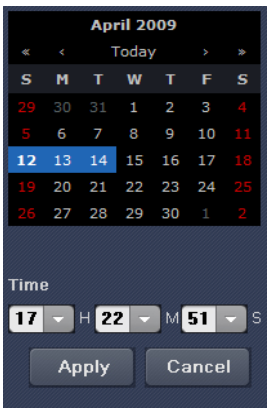


-

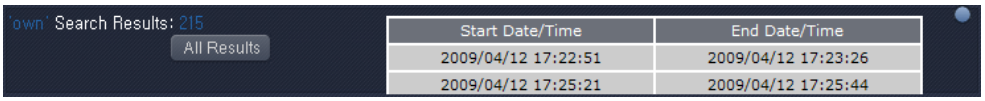
区域：启用选择事件输入组。
-

区域：启用包含选定事件输入组记录的信道。
-

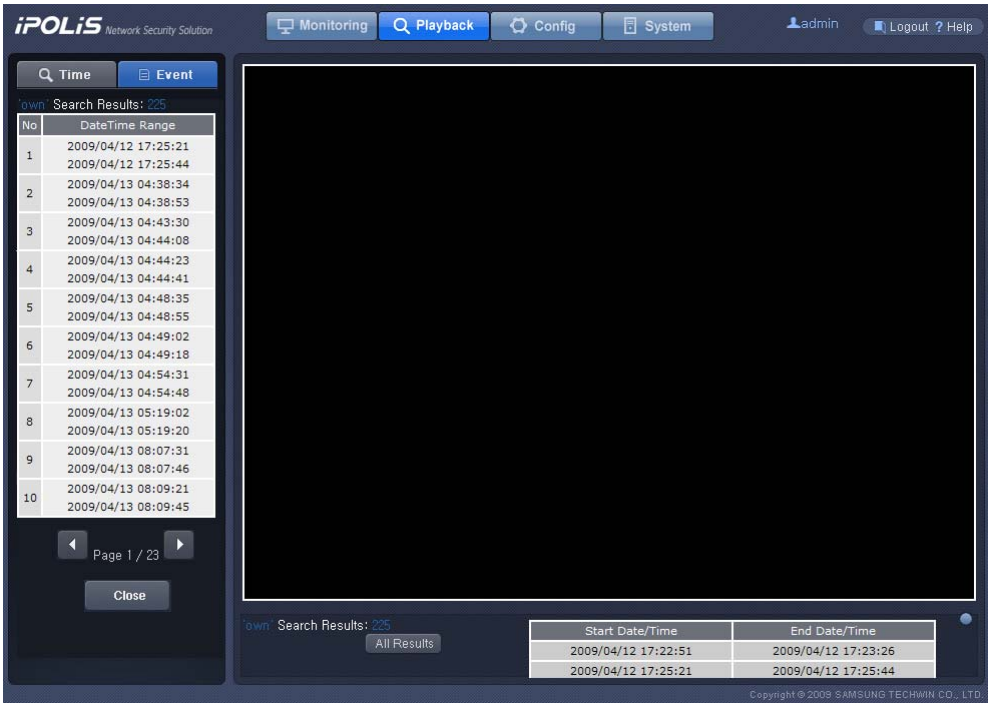
区域：启用选择开始时间和结束时间来搜索事件。
- 按钮：显示日历，如下页所示，使您能够选择搜索事件的开始和结束日期时间。选择一个日期和时间，然后单击 Apply（应用）。



- Search 搜索匹配选定事件类型、信道、日期和时间条件的视频，然后在屏幕底部显示前 10 条结果，如下面的屏幕快照所示。要播放某个视频，可以单击该结果。要检查所有 10 个结果，可以向上或向下移动屏幕右侧的 按钮。



- All Results 在页面左侧显示所有搜索结果。每次显示 10 条搜索结果。单击某个条目将自动播放选定时间保存的视频。 和 按钮可以移动到前一个或下一个结果页面。 Close 按钮移动到以前的屏幕。



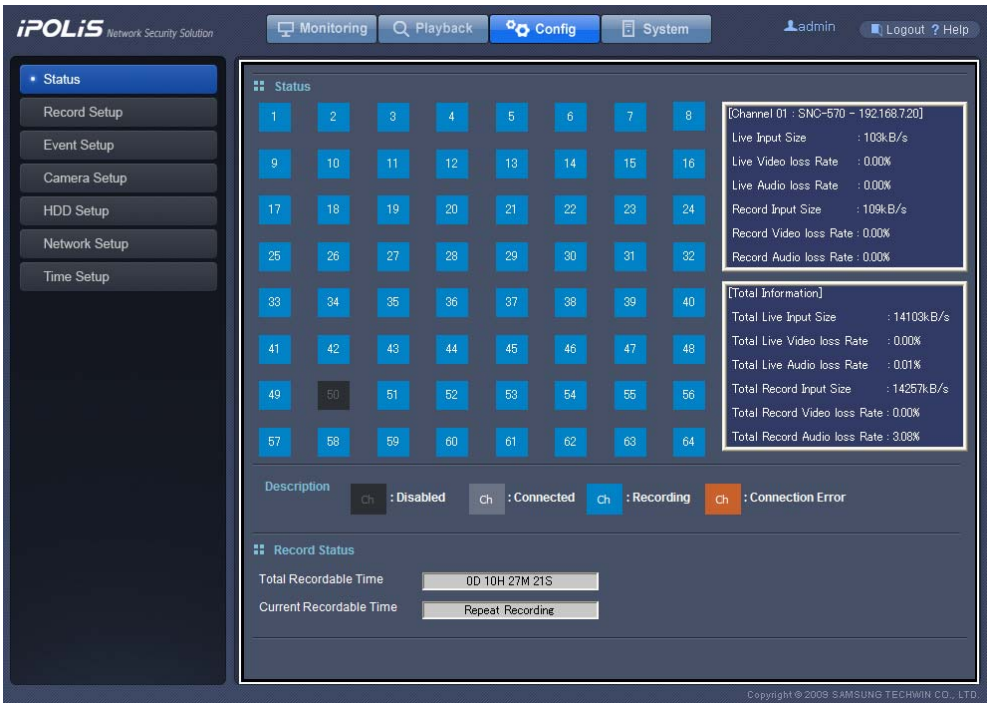
注意

- 最长可搜索期限为 7 天。
- 如果选定搜索期限内记录了超过 500 个事件视频文件，则累积记录 500 或更多视频文件那天保存的数据将被搜索，但那天之后保存的数据将不会被搜索。（例如，如果搜索从 10 日到 15 日 的视频文件，并且到 11 日前已累积保存了 800 个视频文件，则程序不会搜索 11 日以后保存的数据，并且只显示最多 800 个文件的搜索结果。）
- Normal Record（正常拍摄）模式时发生的事件无法搜索。

- Sound（声音）按钮：打开或关闭当前视频的音频。
- Capture（截屏）按钮：以 JPG 格式截取当前屏幕的屏幕快照。
- Info（信息）按钮：显示当前视频的信道名称和拍摄时间。
- DIT（隔行）按钮：激活或禁用当前视频的 Deinterlace（隔行扫描）选项。
- REW（回放）和 FFW（快进）按钮：回放、快进和调整当前视频的播放速度。当正在播放视频时，该按钮将变为 8X、4X、2X、1X、1X、2X、4X 和 8X，表示播放的方向和速度。可调整的播放速度为 1x、2x、4x 和 8x 快退和快进。每次单击 REW（回放）或 FFW（快进）按钮时，播放速度将变化一个级别。
- PLAY（播放）按钮：播放视频。当正在播放视频时，该按钮将变为 PAUSE（暂停）按钮。单击 PAUSE（暂停）按钮可以暂停当前视频。
- Stop（停止）按钮：停止视频。

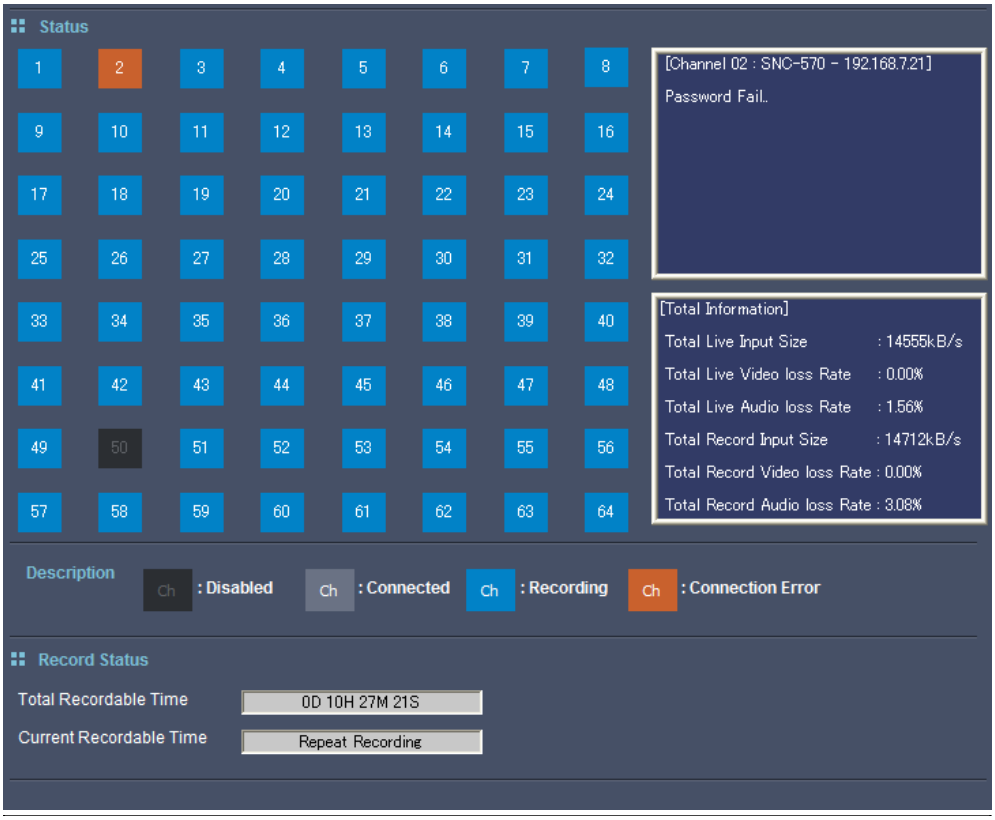
4.6. 配置

单击屏幕顶部的 Config 按钮时，将出现下面的屏幕。单击左侧菜单中的按钮将转到对应的页面。



4.6.1. 状态

在底部显示每个信道的当前状态，以及产品的空闲存储空间信息。



Status（状态）页面使您能够在一个屏幕里检查所有信道的状态。深灰色表示未使用的信道。浅灰色表示该信道已连接到摄像机，但不处于拍摄模式。蓝色表示处于拍摄模式的信道。橙色表示该信道当前遇到与其摄像机之间的连接问题。

右侧的窗格显示信道的详细信息：现场和拍摄模式的比特率、视频损失和音频损失。上方的窗格显示当前信道的信息，而下方的窗格显示所有信道的信息。当选择 Connected（已连接）或 Recording（正在拍摄）的信道时，将显示该信道的比特率以及视频和音频损失。对于处于 Connection Error（连接错误）状态的信道，将显示错误信息。

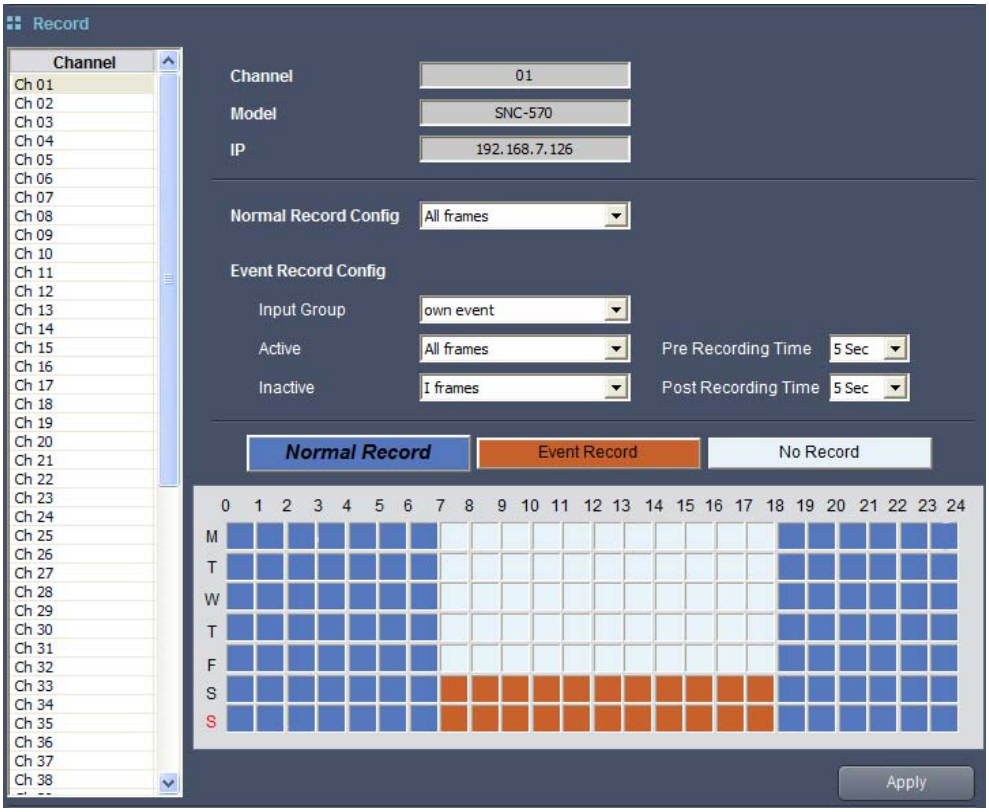
注意

- “现场”表示现场视频输入。“拍摄”表示已经被拍摄且保存在产品 HDD 中的现场视频输入。
- “拍摄”使用最后 8 秒的数据计算统计值；因此即使所有帧都来自正常存储的摄像机，“现场”和“拍摄”的比特率之间仍可能会有很微小的差异。

Record Status（拍摄状态）显示当前拍摄设置下剩余可拍摄的小时数。Total Recordable Time（总计可拍摄时间）显示所有已连接的数据存储设备可支持的总拍摄时间。Current Recordable Time（当前可拍摄时间）显示根据产品当前空闲存储空间计算的剩余可拍摄小时数。如果在 Repeat Recording（重复拍摄）模式期间 HDD 用尽，Current Recordable Time（当前可拍摄时间）菜单将显示 Repeat Recording（重复拍摄）。请参考 请参考 “4.6.5. HDD 设置“

4.6.2. 拍摄设置

在屏幕左侧选择一个信道以便选择其视频拍摄方法。



在屏幕左侧选择一个信道以便选择其视频拍摄方法。要选择每天保存视频的时间和方法，可以选择 Normal Record、Event Record 或 No Record，然后在底部时间表中拖动光标进行选择。小时和星期的不同颜色块表示不同的拍摄模式。选择时，拍摄模式按钮的名称将以粗斜体显示 ***Normal Record***、***Event Record*** 和 ***No Record***。

Normal Record （正常拍摄）模式始终以固定的帧速率拍摄视频，而 Event Record（事件拍摄）模式则会为事件更改其帧速率。可以选择 Event Input Group（事件输入组）或 Own Event（自身事件）以激活 Event Record（事件拍摄）模式。当选择 Input Group（输入组）时，将为对应于该输入组的事件激活 Event Record（事件拍摄）。当选择 Own Event（自身事件）时，将为选定信道中发生的所有事件激活 Event Record（事件拍摄）。对于 Event Record（事件拍摄），“Pre Recording Time（前排摄时间）”定义事件之前的时间，而“Post Recording Time

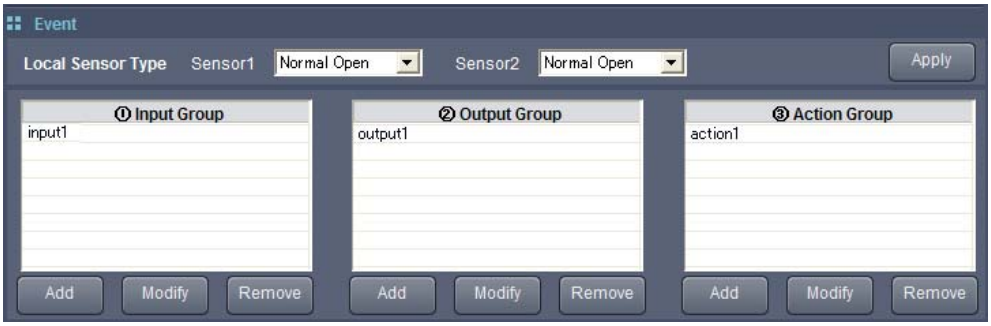
（后拍摄时间）”定义事件后过去的时间，系统将根据这两个时间对存储视频采用特殊的帧速率。Pre Recording Time（前排摄时间）最多为 5 秒，而Post Recording Time（后排摄时间）最长可达 60 秒。您可以在 Playback（播放）屏幕按照 Event Record（事件拍摄）搜索已拍摄的视频。有关设置事件和 Input Group（输入组）的说明，请参考 “4.6.3. 事件设置“ 您可以为每种拍摄模式选择不同的帧速率：Normal Record（正常拍摄）、Event Record（事件拍摄）– Active（活动）（当事件发生时），Event Record（事件拍摄） – Inactive（非活动）（当没有检测到事件时）。对于 Normal Record（正常拍摄）和 Event Record（事件拍摄） – 可以选择 Active（活动）、All frames（所有帧）、I frames（I 帧）和 2 I frames（2 I 帧）。对于 Event Record（事件拍摄） – 可以选择 Inactive（非活动）、All frames（所有帧）、I frames（I 帧）、2 I frames（2 I 帧）和 No Record（不拍摄）。选择“All frames（所有帧）”将存储来自摄像机的所有视频输入，而“I frame（I 帧）”仅为每 1 秒视频输入存储 1 帧。选择“2 I frames（2 I 帧）”仅为每 2 秒视频输入存储 1 帧。No Record（不拍摄）不会记录任何视频。

注意

只有单击 Apply 按钮后才会应用新设置。

4.6.3. 事件设置

您可以在该屏幕中配置与事件相关的设置。

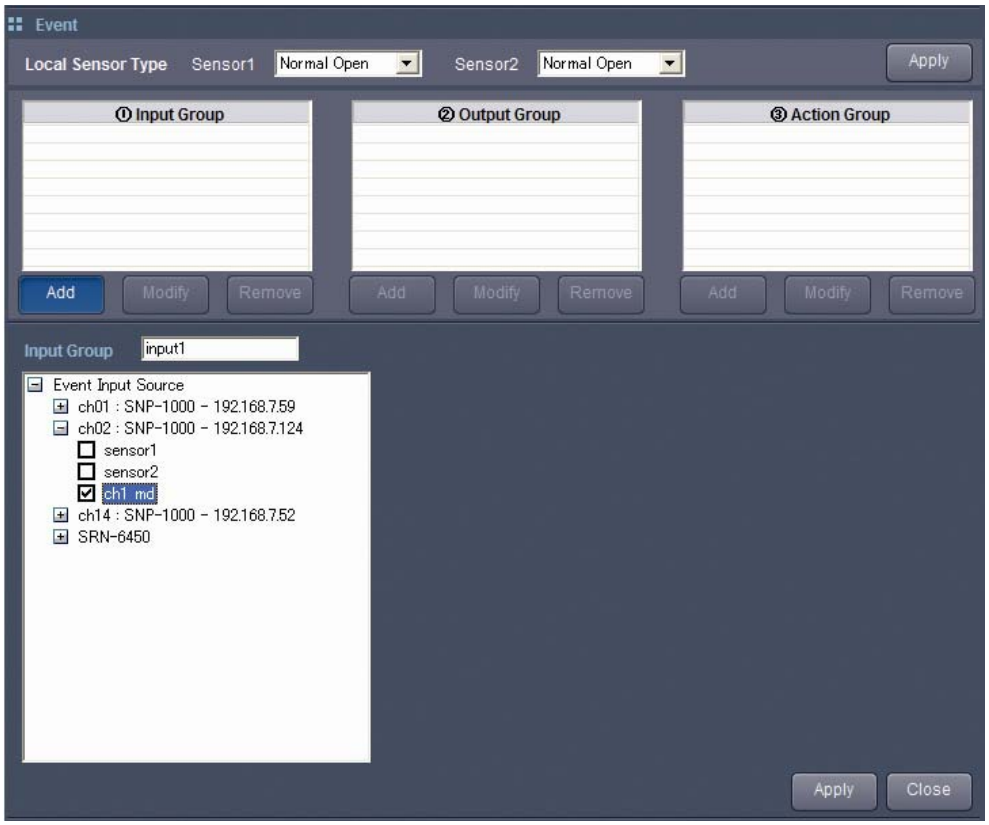


❖ **本地传感器类型**

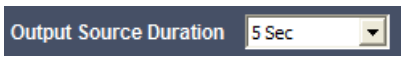
Local Sensor Type（本地传感器类型）使您可以为 Sensor 1（传感器 1）和 Sensor 2（传感器 2）选择 Normal Open（正常开路）或 Normal Close（正常闭路）工作类型。当接点类型为短路或动态类型为低电平时，Normal Open（正常开路）将激活传感器输入。当接点类型为开路或激活类型为高阻抗（开路）时，Normal Close （正常闭路）将激活传感器输入。有关传感器的更多信息，请参阅每种传感器的用户手册。

❖ 事件输入/输出组

Event Input Group（事件输入组）定义摄像机和网络视频录像机中可能发生的一组事件；Event Output Group（事件输出组）定义摄像机和录像机对特定事件可能采取的一组响应。单击 Event Input Group（事件输入组）或 Event Output Group（事件输出组）下方的 Add 按钮将看到以下屏幕。当选择某个组并单击 Modify，或者双击某个组时也会出现该屏幕。



在 Input Group（输入组）或 Output Group（输出组）窗格中输入新组名。窗格下方的列表显示信道摄像机名称和产品名称。要显示可用的 Input Event（输入事件）或 Output Event（输出事件）源，可以双击摄像机或产品。对于 Input Group（输入组），可用选项包括 Sensor（传感器）和 MD（运动检测），而 Output Group（输出组）可用选项包括 Relay（继电器）、E-mail（电子邮件）和 Beep（蜂鸣器）。（有关摄像机输入和输出信号的更多信息，请参阅每种摄像机的用户手册。）选中所有选项以便将其包含在新分组中，然后单击 Apply 通过 Add（添加）按钮创建分组，或者通过 Modify（修改）按钮应用新设置。Close 按钮可以关闭 Group Settings（分组设置）而不创建分组或保存新设置。

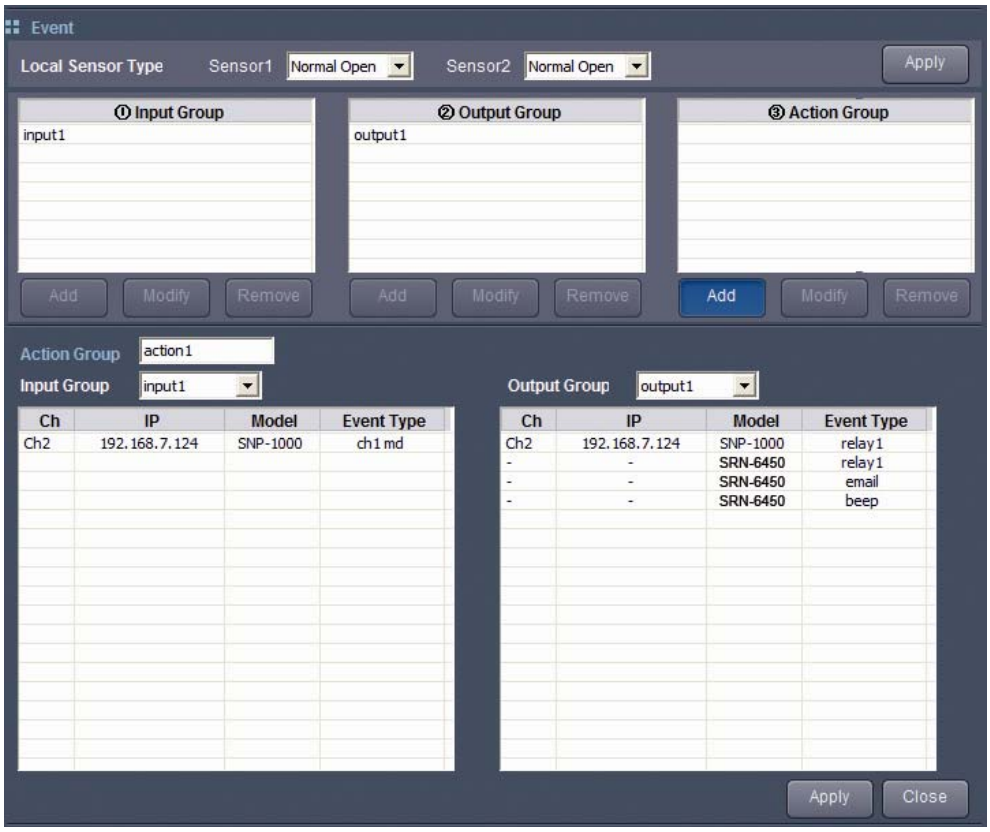


对于 Output Group（ 输出组），可以添加和修改 Output Source Duration（输出源持续时间）。Beep（蜂鸣器）和 Relay（继电器）操作持续时间可以设置为从“1second（1 秒）”到“always（一直持续）”（以确保事件发生时始终执行操作）。

要删除某个组，可以在组列表中选择该组，然后单击 Remove。

❖ 事件操作组

Event Action Group（事件操作组）将 Event Input Group（事件输入组）和 Event Output Group（事件输出组）联系到一个功能单元，因此当发生 Event Input Group（事件输入组）中的某个事件时，所有包含在 Event Output Group（事件输出组）中的响应都将被包含该组中。单击 Event Action Group（事件操作组）列表下方的 Add 按钮将转到下面所示的屏幕。当选择某个组并单击 Modify，或者双击某个组时也会出现该屏幕。



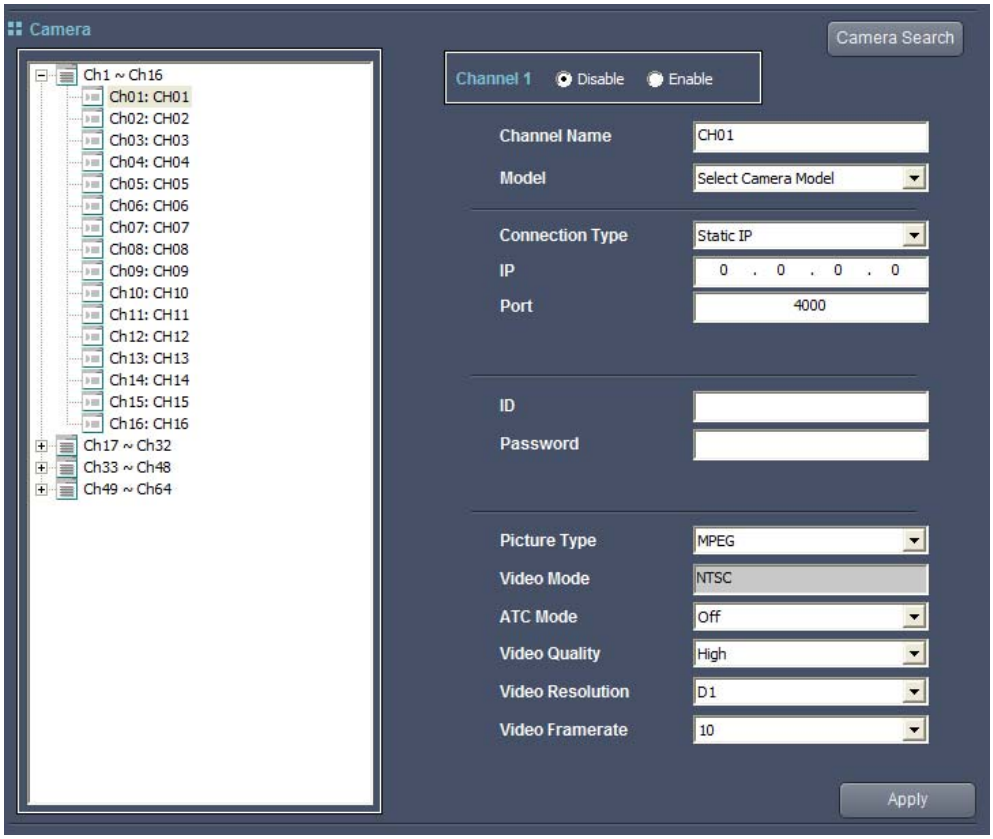
首先，在 Group Name（组名）中输入新组名。然后在 Input Group（输入组）和 Output Group（输出组）列表中选择 Event Input and Output Groups（事件输入和输出组）。为选定 Input and Output Groups（输入和输出组）注册的事件位于屏幕底部。单击 Apply 按钮创建组。Close 按钮可以关闭 Group Settings（组设置）窗口而不创建组。

要删除某个组，可以在组列表中选择该组，然后单击 Remove。

注意

删除 Input or Output Group（输入或输出组）将删除对应该 Input or Output Group（输入或输出组）的 Action Group（操作组）。

4.6.4. 摄像机设置



选择左侧列表中的信道；您可以查看或修改其摄像机设置。活动信道显示为 ，而非活动信道显示为 。

- Disable Enable：选择 Enable（启用）激活某个信道。
- **Channel Name（信道名称）**：命名信道。Channel Name（信道名称）将显示在 Monitoring（监控）和 Playback（播放）屏幕的顶部。
- **Model（型号）**：选择摄像机的型号。除网络摄像机外，还可以选择网络视频服务器，如 SNS-100、SNS-400 等。
- **Connection Type（连接类型）**：选择摄像机的连接类型，选项包括 Static IP（静态 IP）和 DDNS。
  - 要使用 Static IP（静态 IP），则需输入摄像机的 IP 地址和连接端口。
  - 要使用 DDNS，则需输入 DDNS 服务器地址和用户 ID。
- **ID、Password（密码）**：输入摄像机的登录 ID 和密码。

- **Picture Type（图像类型）**：选择图像保存方式，选项包括 MPEG 和 JPEG 格式。
- **Video Quality（视频质量）、Video Resolution（视频分辨率）、Video Framerate（视频帧速率）**：选择视频质量、分辨率和视频帧速率。为这些设置选择的值越高，得到的视频质量就越好，但需要使用更多的网络带宽和磁盘存储容量。

注意

- 本产品的最大帧速率有限制，并且根据分辨率和 RAID 设置的不同而不同。（请参考产品规格页。）
- 当计算总计帧速率时，Picture Type（图像类型）设置为 JPEG 的信道的帧速率是 Picture Type（图像类型）设置为 MPEG 的信道的两倍。
- 该系统是基于单一流的设备，可以采用在“Camera Setup（摄像机设置）”页面中指定的摄像机模式继续录制和现场播放。

注意

- Video Mode（视频模式）显示选定摄像机的颜色编码系统，NTSC 或 PAL，无法修改该设置。
- 可用的分辨率会因网络摄像机而异。对于高于 720p 的分辨率，NTSC 与 PAL 之间不存在差别，而且最大帧速率也会相应更改。

	NTSC	PAL
QCIF	176 x120	176 x144
CIF	352 x240	352 x288
2CIF	704 x240	704 x288
4CIF	704 x480	704 x576
D1	720x480	720 x57
720p	1280x720	
960p	1280x960	
FullHD	1920x1080	
QVGA	320x240	
VGA	640x480	
SVGA	800x600	
XGA	1024 x768	
SXGA	1280 x1024	
UXGA	1600 x1200	
QXGA	2048 x1536	

注意

- 如果用户不遵守产品规格，某些数据可能会丢失。因此，请确保根据产品规格的限制来配置摄像机设置。（请参阅“产品规格”）
- 如果您在录制模式中更改摄像机设置，则在更改时录制的图像可能无法正常播放。

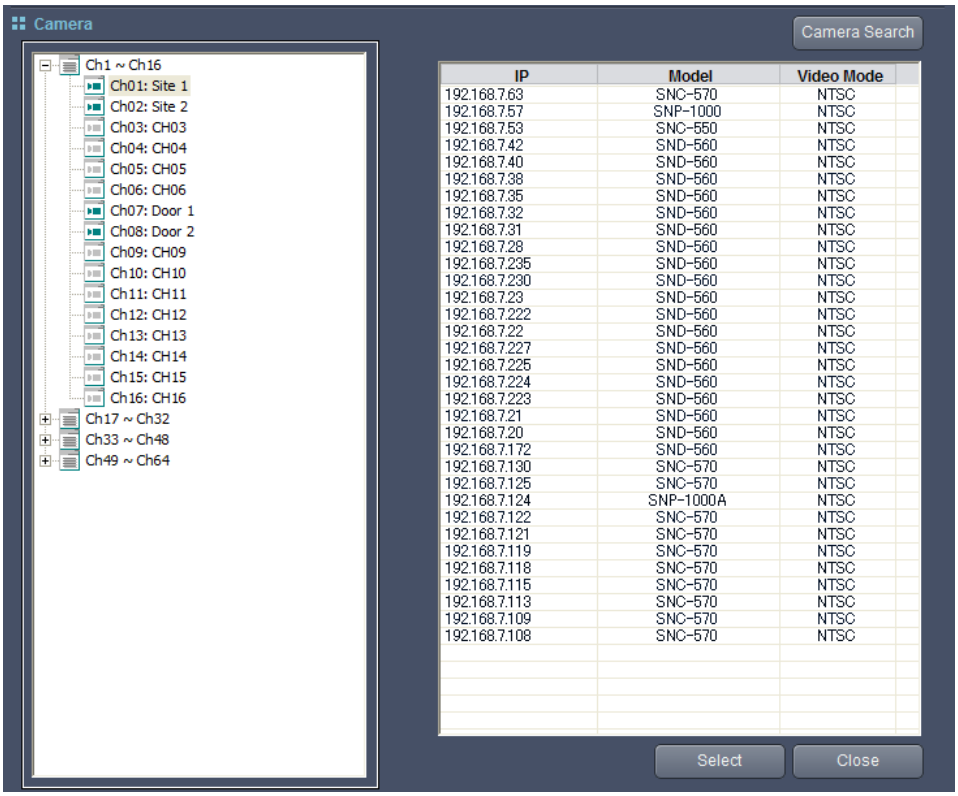
注意

NVR 即可用于与 Samsung Techwin 网络产品连接，也可与 AXIS 产品进行连接。但是，AXIS 摄像机与本产品的兼容性有限制，如下所述。

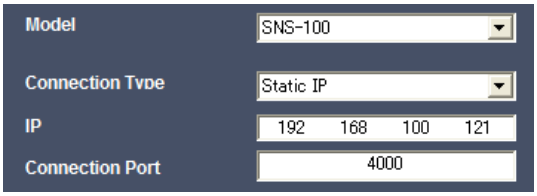
- 仅同时支持 VAPIX 和 MPEG4 输出的 AXIS 摄像机才能与本产品兼容。
- 音频编码：G711 μ-law
- Camera Search（摄像机搜索）：无法搜索。
- Resolution（分辨率）： 在 Camera Setup（摄像机设置）页面，可以选择一个 D1、半 D1 或 CIF 作为 AXIS 分辨率。但某些 AXIS 摄像机型号不支持 D1、半 D1 或 CIF 分辨率。在这种情况下，请使用下图确定 Video Mode（视频模式）和 Video Resolution（视频分辨率）。例如，如果希望 AXIS 摄像机使用 CIF 视频分辨率，则可以检查图中是否列出 352x240、320x240 或 352x288 的分辨率。如果列出其中某种大小，即表示可以使用该分辨率。如果选定的分辨率不可用，本产品将按照 D1、半 D1 和 CIF 的顺序搜索支持的分辨率，然后自动更改分辨率。不支持任何下列分辨率的 AXIS 摄像机无法用于与 NVR 连接。

	NTSC	PAL
D1	704x480, 4CIF, 640x480	704x576
半 D1	704x240, 2CIF	704x288
CIF	352x240, 320x240	352x288

- Camera Search 自动搜索当前网络以找出要连接的摄像机。



选择列表中的摄像机，然后双击它，或者只需单击 Select。摄像机的 Model（型号）、Connection Type（连接类型）、IP 和 Connection Port（连接端口）选项将根据摄像机的设置而自动设置。



注意

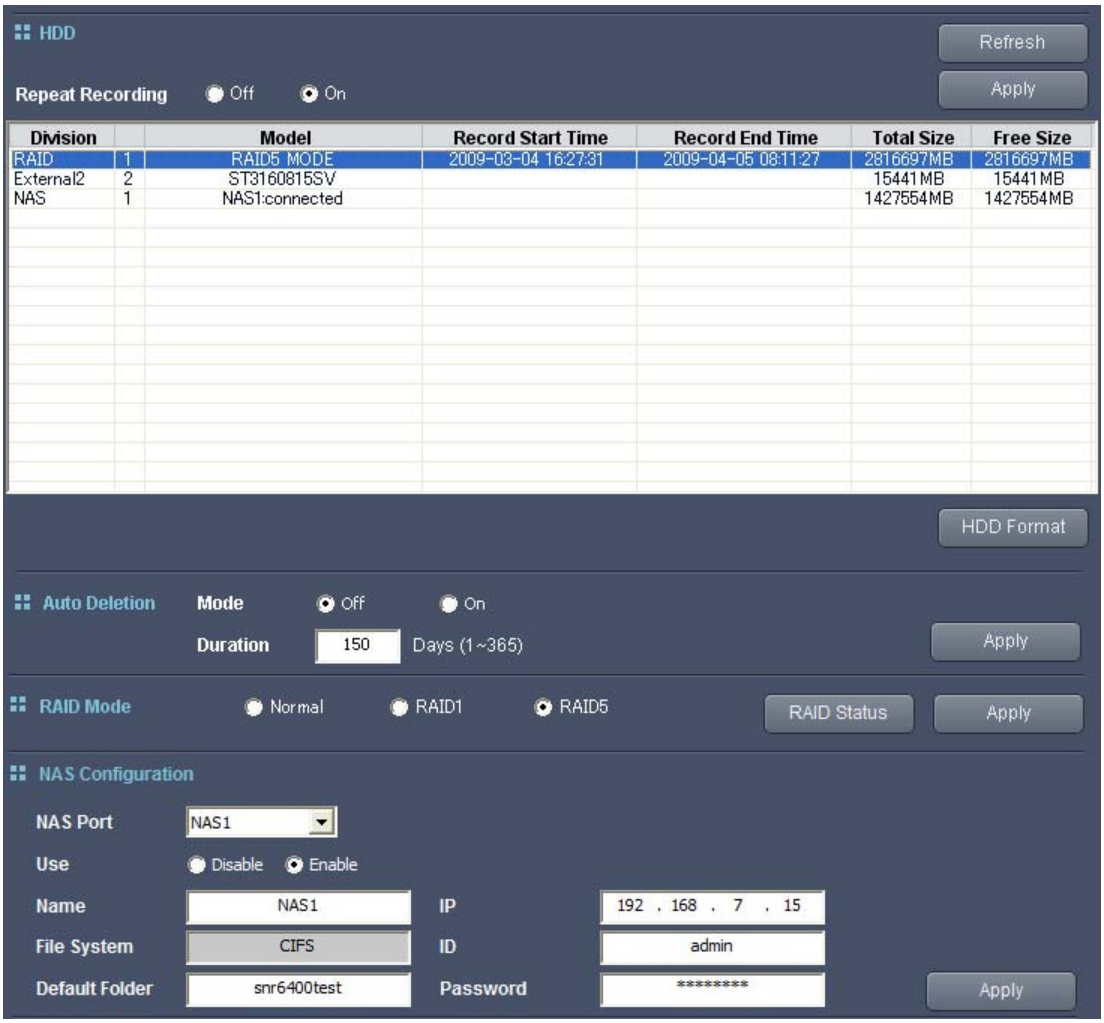
Camera Search（摄像机搜索）并不总能找出网络中所有的摄像机；您可能需要多次单击 Camera Search 才能找出所有想要的摄像机。

注意

只有单击 Apply 按钮后才会应用新设置。

4.6.5. HDD 设置

从该页面可以配置连接到系统的存储设备。



❖ HDD

屏幕顶部列出当前连接到系统的内部 HDD、外部 HDD 和/或 NAS 设备的类型和状态。内部和外部 HDD 将列出其型号、拍摄时间、“总计大小”（总容量）和“空闲大小”（剩余空间）；NAS 设备将列出其用户指定的名称和当前连接状态。配置了 RAID 的内部 HDD 显示为“RAID”而不是“Internal（内部）”，并且其型号名称将由其 RAID 模式代替：“RAID1 MODE（RAID1 模式）”或“RAID5 MODE（RAID5 模式）”。当正在格式化 HDD、HDD 正在进行磁盘检查过程，以及正在配置新的 RAID 模式时，将显示“Formatting（正在格式化）”、“Testing（正在检查）”和“Building（正在构建）”代替设备的型号名称。

将 Repeat Recording（重复拍摄）设置为 On（开）时，如果 HDD 上没有剩余空间，则系统会自动清除最旧的视频记录，以便为新视频留出空间。

要刷新已连接的 HDD 列表，可以单击 Refresh。

当选择某个 HDD 时将出现 HDD Format；单击该按钮可以格式化选定的 HDD。格式化进行过程中，前 LCD 将显示下面的消息。

```
Formatting HDD
   is in Progress...
```

```
HDD Format
                  [DONE]
```

当正在格式化 HDD、HDD 正在进行磁盘检查过程，或正在配置新的 RAID 模式时，本产品将不能用于格式化另一个新的 HDD；此时即使您选择列表中的某个 HDD，也不会现显示 HDD Format 按钮。

选择某个 NAS 后单击 HDD Format 并不会格式化整个 NAS；它仅删除选定 NAS 上的所有视频数据。

注意

仅当单击屏幕顶部的 Apply 按钮时才会应用新的 Repeated Recording（重复拍摄）设置。

❖ 自动删除

在自动删除中，您可以选择并指定自动删除的必要项目以及保存期限。

将模式项目设置为开，并在持续时间项目中指定保存期限。 然后，按右边的 Apply。

这将自动删除 HDD 中旧于指定期限的数据。

保存期限可按天指定，范围是至少 1 天到最多 365 天。

注意

如果您首次激活自动删除，就会自动删除旧于指定期限的 HDD 数据，并且自动删除模式启动需要一小会的时间。

❖ RAID 模式

在 RAID Mode（RAID 模式）菜单中可以更改系统 RAID 设置。要更改该设置，首先选择 Normal（正常）、RAID1 或 RAID5，然后单击右侧的 Apply 按钮。Normal（正常）即

非 RAID 模式。应用新 RAID 设置时，系统将自动重新启动系统并将断开 Web Viewer 的连接。系统需要大约 2 分钟时间重新引导并建立网络连接。

当正在应用新 RAID 设置时，前 LCD 将根据过程情况显示以下消息。

```
Preparing RAID1
   is in Progress...
```

```
Rebooting system
   is in Progress...
```

```
Build RAID1: 48.8%
Finish: 37.6min
```

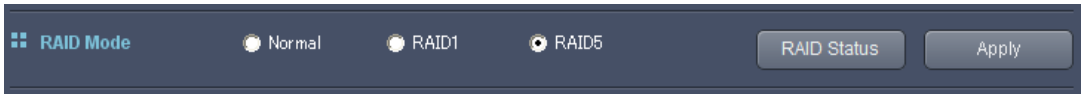
```
RAID1 Setup
               [DONE]
```

```
Unbuilding RAID
   is in Progress...
```

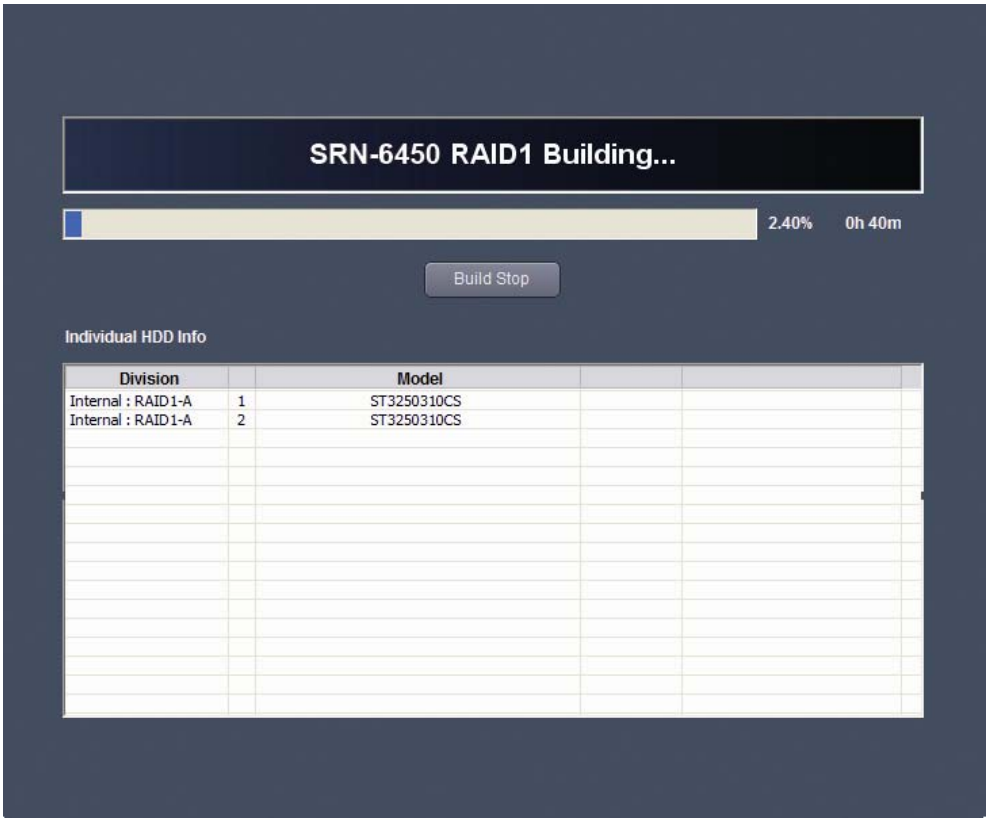
```
Rebooting system
   is in Progress...
```

```
Unbuilding RAID
               [DONE]
```

当系统处于 RAID 模式时，右侧将出现 RAID Status。



RAID Status 显示系统的当前 RAID 状态和已配置 RAID 的 HDD 的信息。



当构建 RAID 模式时，RAID Status（RAID 状态）屏幕中将出现 Build Stop。单击该按钮可以放弃 RAID 构建过程。

注意

- RAID（独立磁盘冗余阵列）有助于在系统 HDD 损坏的情况下保护数据安全。
- 选择 RAID1 模式将 HDD1 和 HDD2 配置为一个阵列，并将 HDD3 和 HDD4 配置为另一个阵列。RAID1 使用 2 个物理 HDD 作为 1 个功能性 HDD。例如，将 HDD1 和 HDD2（各自装备一个 500GB 的 HDD）配置为 RAID1 将显示系统的功能性 HDD 为一个 500GB RAID。在 RAID1 模式中，即使 RAID 阵列的两个 HDD 中的一个损坏也不会丢失任何数据。
- 选择 RAID5 可以将 4 个 HDD 配置为 1 个 RAID 阵列。RAID5 使用 4 个物理 HDD 作为 3 个功能性 HDD。例如，将 HDD1、2、3 和 4（各自装备一个 500GB 的 HDD）配置为 RAID5 将显示系统的功能性 HDD 为一个 1.5TB RAID。在 RAID5 模式中，即使四个 HDD 中的一个损坏也不会丢失任何数据。
- RAID1 需要至少装备 2 个 HDD （HDD1 和 HDD2，或者 HDD3 和 HDD4），而 RAID5 需要装备全部 4 个 HDD。

- 要配置 RAID 模式，HDD 必须为相同大小。强烈建议您使用相同品牌和型号的 HDD 配置 RAID。
- RAID 设置仅适用于内部 HDD。
- 使用 4 x 500GB HDD 构建 RAID1 需要大约 3 小时，构建 RAID5 需要大约 4 小时。

注意

- **将 RAID 设置更改为新模式将自动删除产品 HDD 中的所有数据，并且在完成新 RAID 模式配置前不会保存新的视频文件。**
- **当产品非正常关机（例如拔出交流电源适配器）后再开机时，产品可能会自动重新配置其 RAID 设置以确保已保存数据的完整性。正在配置新 RAID 模式时，现有的数据不会丢失，但同样不会保存新的数据。**
- **如果已配置 RAID 的 HDD 中有两个以上的 HDD 损坏或从产品中取出，则 RAID 配置将无法正常工作，从而导致数据丢失。**

❖ NAS

最多可连接四个 NAS 设备；每个 NAS 按照其 NAS 端口进行引用。选择一个 NAS Port（NAS 端口）以查看或更改其配置。

Use（使用）可帮助确定是否使用选定的 NAS 端口。

Name（名称）可用于为 NAS 设备指定名称。NAS Name（NAS 名称）将显示在屏幕顶部 HDD 列表的 Model（型号）类别下。

Default Folder（默认文件夹）可用于指定 NAS 上保存拍摄视频的文件夹。

分别在 IP、ID 和 Password（密码）中输入 NAS 的 IP 地址、登录 ID 和密码。

注意

- NAS 端口仅支持 CIFS (Samba) 文件系统。
- NAS 名称和默认文件夹名称可以包含最多 32 个字节，即 32 个数字字母字符（英文字符）。
- 如果产品第一次开机时 NAS HDD 关闭，或者由于其他原因本产品无法连接到该 HDD，则 NAS HDD 可能不会出现在 HDD 列表中。在这些情况下，即使问题得到解决，本产品也无法自动连接到 NAS HDD。要连接到 NAS HDD，必须将设置更改为 Disable（禁用），然后将其重新改回 Enable（启用）。
- 如果已连接的 NAS HDD 与产品断开连接，则它在 HDD 列表中的状态将从“Connected（已连接）”更改为“Not Connected（未连接）”。在这种情况下，即使问题得到解决，本产品也无法自动连接到 NAS HDD。HDD 的状态随后将

恢复到“Connected（已连接）”。

- NAS 的数据保存速度低于内部和外部 HDD；这可能导致视频文件保存错误。

注意

仅当单击屏幕底部的 Apply 按钮时，才会应用新的 NAS 设置。

注意

当系统正在工作时，严禁取出 HDD。要安全取出 HDD，请参考 “5.4. 取出 HDD“

4.6.6. 网络设置

可以在此屏幕中配置网络设置。

可以使用 PPPoE、Static IP（静态 IP）或 DHCP 作为后面板上网络端口的连接方法。如果不确定使用哪种方法，请向您的网络管理员寻求帮助。

如果产品连接到 PPPoE 类 xDSL 线路，可以选择 PPPoE 作为连接方法，并输入接入 ID 和密码。如果希望使用静态 IP 则选择 Static IP（静态 IP）连接方法，并输入要使用的 IP 地址、子网掩码和网关。如果希望连接的网络中存在 DHCP 服务器，则选择 DHCP；DHCP 服务器将自动为您分配 IP 地址。

注意

- 如果正在使用 PPPoE 或 DHCP，则可以在 Assigned IP（分配的 IP）中找到当前分配给产品的 IP 地址；不能自行设置 Assigned IP（分配的 IP）。
- 将网络连接方法从 PPPoE 更改到 DHCP 或 Static IP（静态 IP）将自动重新启动系统。

后面板上 3 个网络端口（请参考 “2.2. 后面板“ 和 “3.1.2. 配置网络“)

分别是Monitor Ethernet Port（监视器以外网端口）、Source Ethernet Port（源以太网端口）和 Storage Ethernet Port（存储以太网端口）。Monitor Ethernet Port（监视器以太网端口）可以通过网络或设置程序将监控计算机连接到 NVR。Source Ethernet Port（源以太网端口）连接到摄

像机。Storage Ethernet Port（存储以太网端口）连接到 NAS 设备。

对于 Monitor Ethernet Port（监控以太网端口），可以设置连接端口号和 http 端口。Http 端口用于通过 Web Viewer 连接到产品。如果更改 HTTP Port（HTTP 端口）的默认值 (80)，则使用 Web Viewer 连接到产品时必须为产品地址追加“（您的端口号）”。例如，如果 IP 地址是 192.168.1.110 且 HTTP 端口号是 8080，则 Web Viewer 的产品访问地址是 http://192.168.1.110:8080。连接端口用于在 http 连接建立后将计算机连接到产品。
在 ATC Mode（ATC 模式）菜单中可以激活或禁用 ATC。ATC 可以根据网络连接状态自动调整视频质量。

Monitor Ethernet Port（监视器以太网端口）支持 DDNS。通过向 DDNS 服务器注册产品，您可以使用 DDNS 服务器 ID 代替产品 IP 地址从外部连接到 Monitor Ethernet Port（监视器以太网端口）。如果使用 PPPoE 或 DHCP 连接到 Monitor Ethernet Port （监视器以太网端口），则每次将产品连接到网络时都会分配新的 IP 地址。DDNS 在以下场合非常有用。

注意

使用 DDNS

1. 在 iPOLiS 主页 (www.samsungipolis.com) 上注册会员。
2. 登录，并通过 MY IPOLIS（我的 IPOLIS）中的产品注册菜单注册 NVR。（请确保注册域时检查是否有重复域。）可以检查您的产品是否已在 Product List（产品列表）中正常注册。
3. 接着将 DDNS Use（使用 DDNS ）设置为“Enable（启用）”，在 Server Domain（服务器域）中输入“www.samsungipolis.com”（不包括引号），最后键入您在 iPOLiS 主页上注册的 ID 和密码。
4. 您可以在 iPOLiS Product List（iPOLiS 产品列表）上查看注册产品的连接状态。（“ON（开）”表示该产品已连接到 DDNS。）
5. 单击 Product List（产品列表）中的 Connect to Product（连接到产品）以便连接到您的产品。
6. 还可以在 Internet 浏览器地址栏中输入 http://www.samsungipolis.com/ID 以便连接到您的产品。（“ID”是注册产品时选择的域。）

Source Ethernet Port（源以太网端口）可以作为 DHCP 服务器为已连接的摄像机分配 IP 地址。输入两个 IP 地址（IP 范围的第一个和最后一个地址）以限制动态 IP 的范围。当希望仅

将 NVR 开放给外部网络而保持已连接的摄像机处于内部网络中时，DHCP Server（DHCP 服务器）选项非常有用。

注意

要使用 DHCP 服务器，Source Ethernet Port（源以太网端口）的连接方式必须设置为 Static IP（静态 IP）。

注意

- 前面板上的网络端口（配置以太网端口）固定设置为 IP 192.168.1.100、HTTP 端口 80、连接端口 4000；该设置无法更改。
- 当通过 Monitor Ethernet Port（监视器以太网端口）而不是 Config Ethernet Port（配置以太网端口）连接到系统时，更改 Monitor Ethernet Port（监视器以太网端口）的设置可能会终止连接。如果发生这种情况，必须使用新的地址连接到该产品。

所有的端口都使用相同的 DNS 服务器；最多可以有两台 DNS 服务器。DNS1 作为默认服务器使用，而 DNS2 在 DNS1 不可用时使用。

使用 RTP/RTSP 可以在监控系统中观看 SRN-6450 的视频，而无需使用 Web Viewer。要使用 RTP/RTSP，首先在 Use RTSP（使用 RTSP）菜单中选择“Enable（启用）”，然后在 Settings（设置） 菜单中更改 RTSP 和 RTP 端口号。（RTSP 用于控制视频，而 RTP 用于传输视频数据。）

当需要向多个用户同时发送视频而无需消耗太多带宽时，Multicast（多播）选项非常有用。只有在本地网络中配置了启用多播的路由器时才能使用多播；不能通过 Internet 使用多播。

注意

- RTSP 端口号不能与 Monitor Ethernet Port（监视器以太网端口）的连接端口号相同。
- 除非您非常熟悉 RTP 多播协议，否则我们建议您不要更改该地址。默认多播地址是 224.0.1.1。
- RTSP 监视仅适用于符合 MPEG 的摄像机。（不支持符合 H.264 和 JPEG 的摄像机）

注意

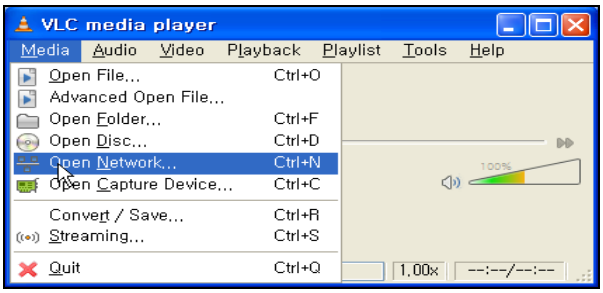
要将计算机连接到产品并通过 RTP/RTSP 观看视频，请按照以下说明操作。我们建议使用 VLC Media Player 作为视频播放器。（某些播放器，如 Quicktime，可能无法正常工作，因为它们不支持隔行扫描。）VLC Media Player 的菜单配置可能根据不同版本而有所不同。（版本 0.9.8a 或更高版本。）

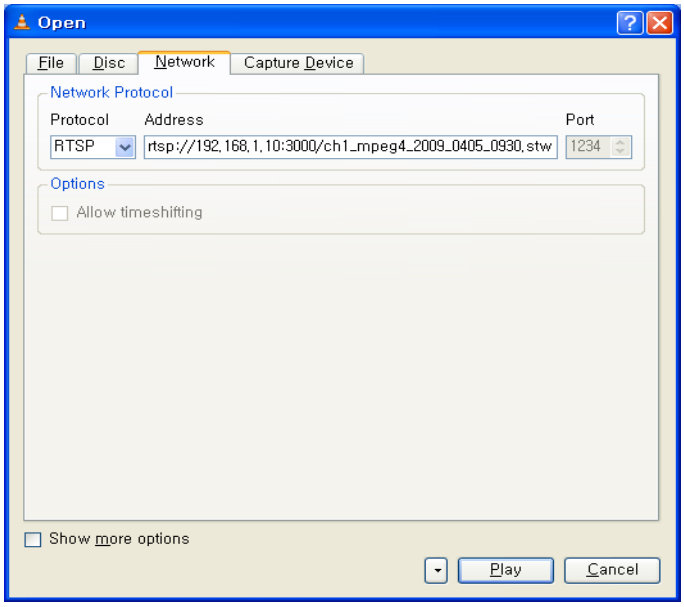
1. 在 Network Setup（网络设置）页面的 Use RTSP（使用 RTSP）菜单中选择

“Enable（启用）”。

要使用多播，可以在 Use Multicast（使用 多播）菜单中选择“Enable（启用）”。

2. 在您的计算机中安装并运行 VLC Media Player。
3. 在 Media（媒体）菜单中，选择 Open Network（打开网络）或简单使用快捷键 (Ctrl+N) 选择 Protocol（协议）中的 RTSP。





4. 根据视频类型输入一个类似下图中示例的地址，然后单击 Play（播放）。当使用默认 RTSP 端口号 554 时，可以跳过输入端口号。

视频类型		地址
Live（现场）	Unicast（单播）	rtsp:.//<IP>:<Port>/ch<channel>_mpeg4.stw
	Multicast（多播）	rtsp://<IP>:<Port>/mch<channel>_mpeg4.stw

Recorded（拍摄）	Unicast（单播）	rtsp://<IP>:<Port>/ch<channel>_mpeg4_<YYYY>_<MMDD>_<HHMM>.stw
	Multicast（多播）	rtsp://<IP>:<Port>/ch<channel>_mpeg4_<YYYY>_<MMDD>_<HHMM>.stw

例如，如果 Monitor Ethernet Port（监视器以太网端口）的 IP 地址是 192.168.1.10 且 RTSP 端口号为 3000，则输入 rtsp://192.168.1.10:3000/ch1_mpeg4_2009_0405_0930.stw 即可观看来自 Channel 1（信道 1）拍摄于 2009 年 4 月 5 日上午 9:30 的视频。

您可以在 Network Setup（网络设置）屏幕注册您的电子邮件地址，这样当定义的事件发生时产品可以通过电子邮件通知您。请参考 “4.6.3. 事件设置“

在 SMTP Server Name（SMTP 服务器名称）中输入外送电子邮件服务器地址，并在 E-Mail To（电子邮件收件人）中输入电子邮件地址。如果您的邮件服务器要求发送电子邮件时使用验证，则选中 User Authentication（用户验证）。在 ID 和 Password（密码）中输入邮件服务器的登录 ID 和密码。

注意

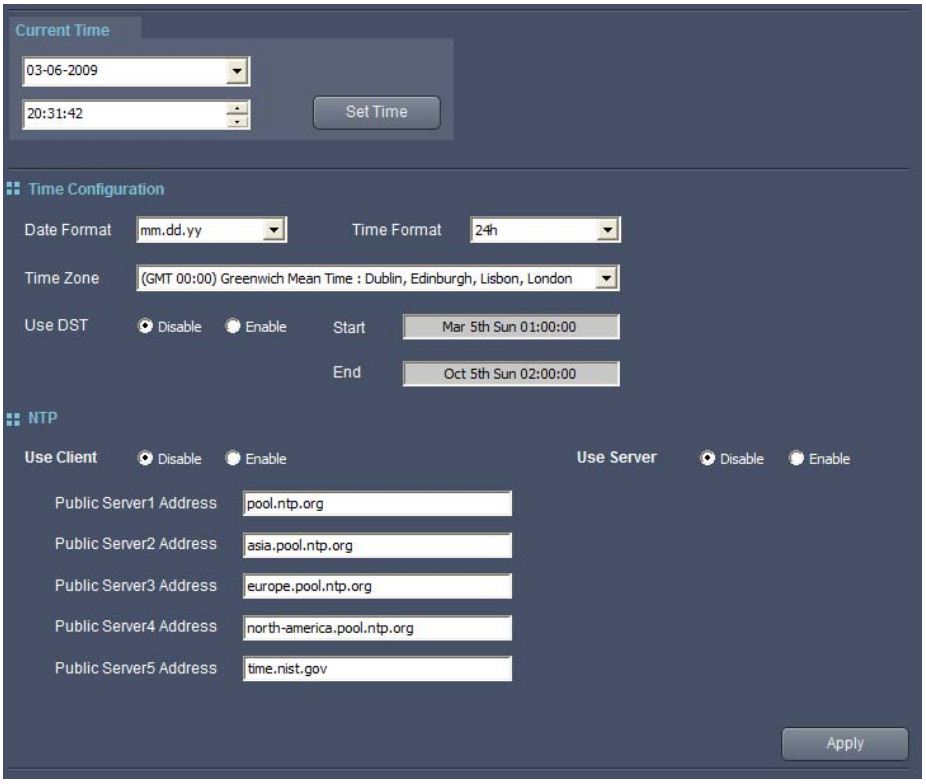
要使用 E-Mail（电子邮件）选项，Monitor Ethernet Port（监视器以太网端口）必须连接至邮件服务器。

注意

只有单击 Apply 按钮后才会应用新的网络设置。

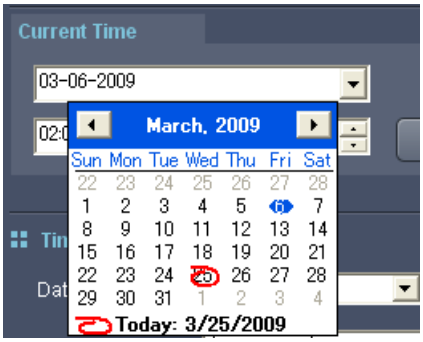
4.6.7. 时间设置

此页面处理系统的时间设置。



您可以在 Current Time（当前时间）中为产品设置当前时间。当前日期在上方，当前时间在下方。单击选择某个项目，然后使用向上/向下箭头键或键盘上的数字键更改值。 向上/向下按钮可用于代替键盘更改当前时间。

要显示日历，可以单击日期窗口中的 按钮。产品的当前日期以蓝色突出显示。产品的当前日期以蓝色突出显示。计算机的当前日期在日历上以红色圈出，并写在日历底部。要移动到上个月或下个月，可以单击日历顶部的 或 按钮。要更改当前日期，可以单击日历上的日期。



Date Format（日期格式）可以选择使用 yy.mm.dd、mm.dd.yy 或 dd.mm.yy 格式显示当前日期，其中 yy 表示年、mm 表示月，而 dd 表示日。Time Format（时间格式）可以选择使用 24 小时制还是 12 小时制显示当前时间。

单击 Time Zone（时区）可选择您所在的时区和城市。如果您所在的城市使用 Daylight Saving Time（夏时制），它将会自动应用。还可以通过 DST Use（使用 DST）手动决定是否使用 DST。

您还可以在 NTP 菜单中选择使用 NTP 客户端和 NTP 服务器。NTP（网络时间协议）可以在连接到网络的各种设备和系统之间同步时间；NTP 客户端能够与注册的 NTP 服务器自动通信以调整其时间设置。要使用默认设置以外的其他 NTP 服务器，可以更改 Public Server Address（公共服务器地址）。

注意

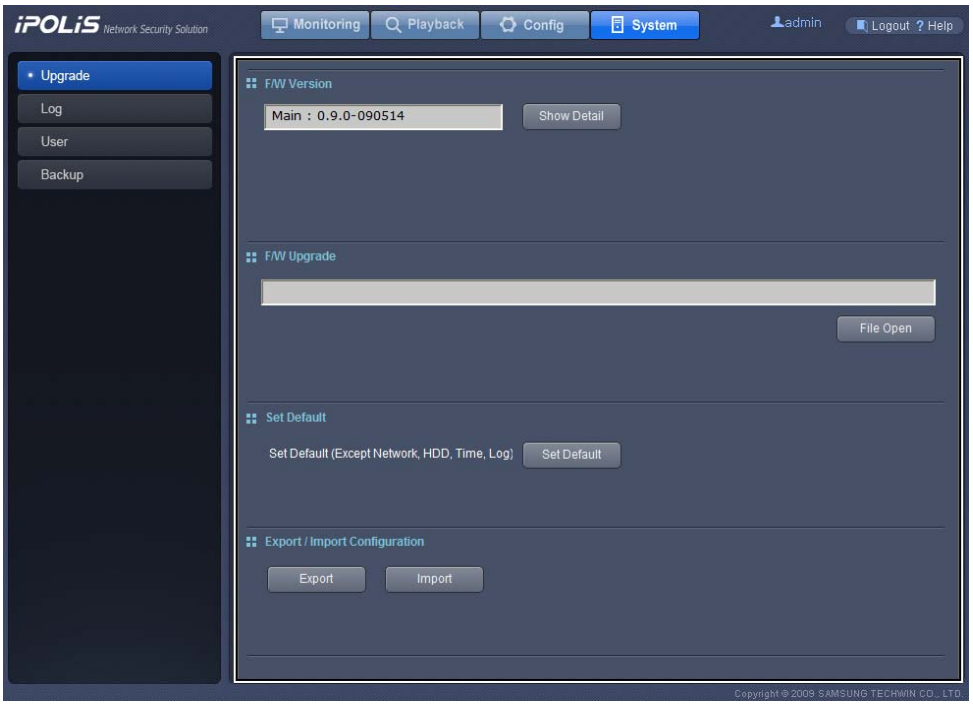
- 更改 GMT 设置会自动更改 Current Time（当前时间）。
- 如果将 NTP 客户端设置从 Disable（禁用）改为 Enable（启用），则同步 NTP 服务器与产品的时间设置可能需要一段时间。更新的产品时间设置不会立即生效；必须通过打开 Time Setup（时间设置）页刷新屏幕。
- 要使用 NTP 客户端选项，NTP 公共服务器和 Monitor Ethernet Port（监视器以太网端口）必须处于相同的网络中。
- 当激活 NTP Server（NTP 服务器）选项时，Source Ethernet Port（源以太网端口）将作为 NTP 服务器。

注意

只有单击 Set Time 按钮后，才会应用新的 Current Time（当前时间）设置。只有单击 Apply 按钮后，才会应用新的 Time Configuration（时间配置）和 NTP 设置。

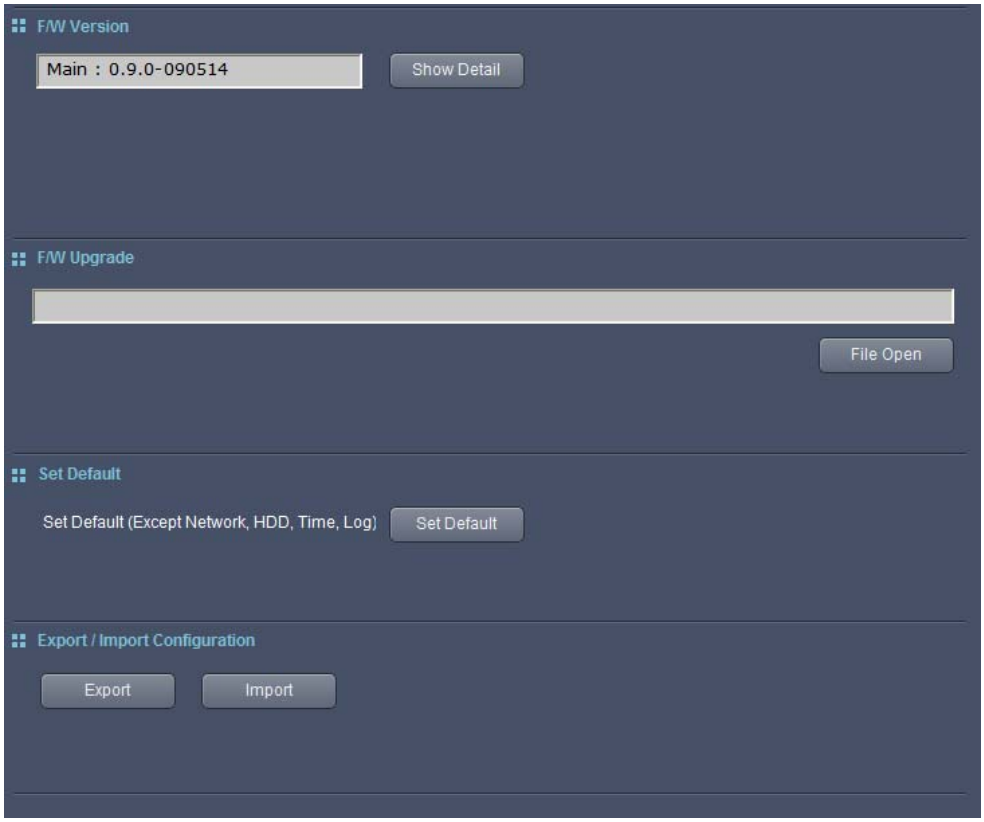
4.7. 系统

选择屏幕顶部的 System 按钮时，将出现下面的页面。通过单击屏幕左侧的某个按钮，可以转到对应于该按钮所描述功能的页面。



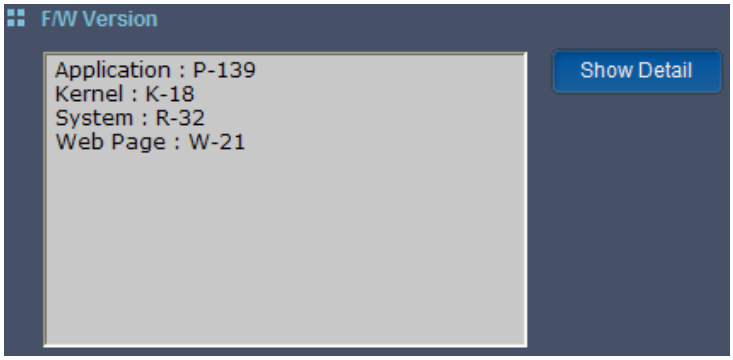
4.7.1. 升级

显示系统的当前固件版本并可重置设置。



❖ 固件版本

屏幕顶部是当前固件版本。单击 Show Detail 了解更多信息，如下面的屏幕快照所示。



❖ 固件升级

要升级产品固件，可以单击 F/W Upgrade（固件升级）菜单中的 File Open 按钮，然后选择要升级的固件文件。

选择固件文件后将激活 File Open 按钮下方的 File Send 按钮。单击该按钮开始升级文件。

注意

要下载最新的固件文件，请访问 www.samsungcctv.com 的 Support（支持） > Download Center（下载中心）。

升级过程完成后，系统将自动重新启动并断开 Web Viewer 的连接。系统需要大约 2 分钟时间重新引导并建立网络连接。

❖ 设置默认值

Set Default 重置 Record（拍摄）、Event（事件）、Camera（摄像机）和 User（用户）菜单的设置。

有关默认设置值的更多信息，请参考 “2.3. 默认设置“

❖ 导入 / 导出配置

您可以将产品的当前设置保存为一个文件，今后可以使用该文件恢复设置。要将产品的当前设置保存为文件，可以单击 Export 按钮，然后设置文件名和路径。

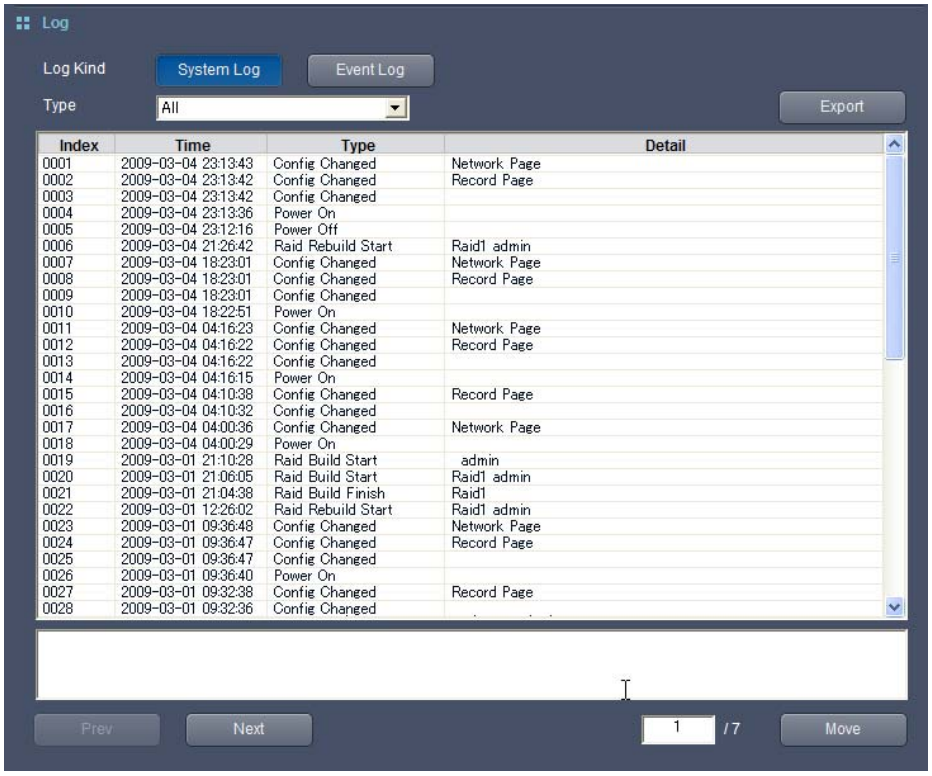
要重新启动并从文件恢复原来的设置，可以单击 Import 按钮，然后选择设置文件。

注意

导入原来的设置时，如果原来的 RAID 设置与当前设置不同，所有内部 HDD 上的数据将被删除。

4.7.2. 系统日志

可以在此屏幕中查看系统日志。



Log Kind（日志类别）用于选择要查看的日志类型：Event Log（事件日志）或 System Log（系统日志）。System Log 显示产品的工作日志，而 Event Log 显示从已连接摄像机发送的事件输入日志。

在 Type（类型）选项中选择某种日志类型将仅显示该类型的日志。

要查看系统设置更改或事件组更改的历史，可以双击 Configuration Changed（更改的配置）或 Event Group Created（创建的事件组）类型的日志文件。详细信息如下面的屏幕快照所示。

Prev 和 Next 可以移动到前一页或后一页。要直接移动到某页，可以在文本框中输入页码，然后单击 Move。

要将系统日志文件保存到计算机，可以单击 Export。

注意

System Logs（系统日志）和 Event Logs（事件日志）分别可保存最多 10,000 条日志。如果日志数量超过 10,000，系统将自动删除最旧的日志。

下表显示各种日志类型。

<系统日志>

日志类型	说明
Power On（打开电源）	打开电源。
Power Off（关闭电源）	关闭电源。
System Rebooting（系统重启）	系统重新启动。
Record On（拍摄打开）	开始拍摄视频。
Record Off（拍摄关闭）	完成拍摄视频。
HDD Format（HDD 格式化）	格式化 HDD。
Camera Connection（摄像机连接）	摄像机已连接。
Config Changed（配置更改）	更改了产品配置。
HDD Full（HDD 满）	达到或超过 HDD 的容量限制。
HDD Added（HDD 已添加）	已添加 HDD。
HDD Removed（HDD 已取出）	取出 HDD。
RAID Build Start（RAID 构建开始）	开始构建 RAID 阵列。
RAID Build Finish（RAID 构建结束）	完成构建 RAID 阵列。
RAID Unbuild（RAID 取消构建）	已删除 RAID 阵列。
RAID Rebuild Start（RAID 重建开始）	重新开始构建 RAID。
Event Group Created（事件组已创建）	创建事件组。
Event Group Deleted（事件组已删除）	删除事件组。
Key Lock On（钥匙锁定开）	钥匙锁已锁定。
Key Lock Off（钥匙锁定关）	钥匙锁未锁定。
HDD Test（HDD 测试）	执行 HDD 磁盘检查。
Log File Export（日志文件导出）	日志已导出。
Firmware Update（固件更新）	固件已更新。
Set Default（设置默认值）	通过 Web Viewer 执行设置默认值。
Factory Reset（出厂重置）	使用前面板按钮执行出厂重置。
RAID Error（RAID 错误）	出现 RAID 错误。
HDD Check Error（HDD 检查错误）	出现 HDD 检查错误。
HDD I/O Error（HDD I/O 错误）	HDD 遇到 I/O 错误。
Upgrade Error（升级错误）	出现固件升级错误。
Network Status（网络状态）	网络连接丢失或重新建立。

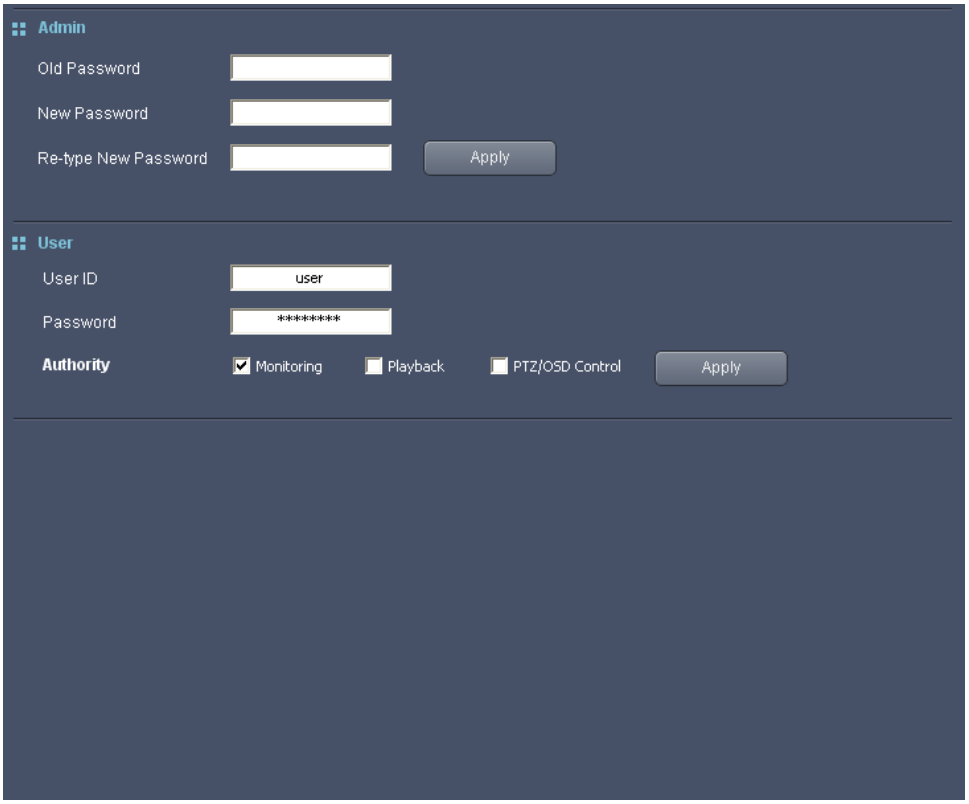
日志类型	说明
摄像机连接错误	连接到摄像机时出错。
导出配置	产品设置已导出到监控计算机。
导入配置	导入并恢复原有产品设置。
备份	备份已存储的数据
登录	用户登录
登录失败	尝试登录但失败
注销	用户注销
DDNS 注册失败	无法注册 DDNS

<事件日志>

日志类型	说明
运动检测	检测到运动。
传感器	传感器设置。
继电器	继电器输出。
视频丢失	摄像机视频丢失。
监控连接	已连接现场屏幕。
输入组	发生输入组中包含的事件。
输出组	发生输出组中包含的事件。
智能	发生智能功能中特定的事件。
手动清除警报	使用前 NVR 按钮关闭哔声
播放已开始	访问“播放”页面以检查视频

4.7.3. 用户设置

在该页面中，您可以设置 Admin（管理员）密码，并为 User（用户）帐户设置 ID、密码和权限。



在 Admin（管理员）窗格中，您可以设置新的管理员密码。在“Old Password（旧密码）”中输入当前密码，并在“New Password（新密码）”中输入新密码、在“Re-type New Password（重新输入新密码）”中确认新密码，然后单击 Apply 按钮。管理员密码用于登录管理员账户，系统管理员账户拥有最高的权限级别。

除管理员账户外，您还可以设置一个权限级别有限的用户帐户。用户帐户由管理员在 Authority（授权）菜单中授予权限。Monitoring（监控）和 Playback（播放）是指通过 Web Viewer 访问产品时使用的菜单；PTZ/OSD Control（PTZ/OSD 控制）是指已连接摄像机的 PTZ 和 OSD 功能。

（请参考“4.4.3. PTZ 控制“ 和 “4.4.4. OSD 控制“)

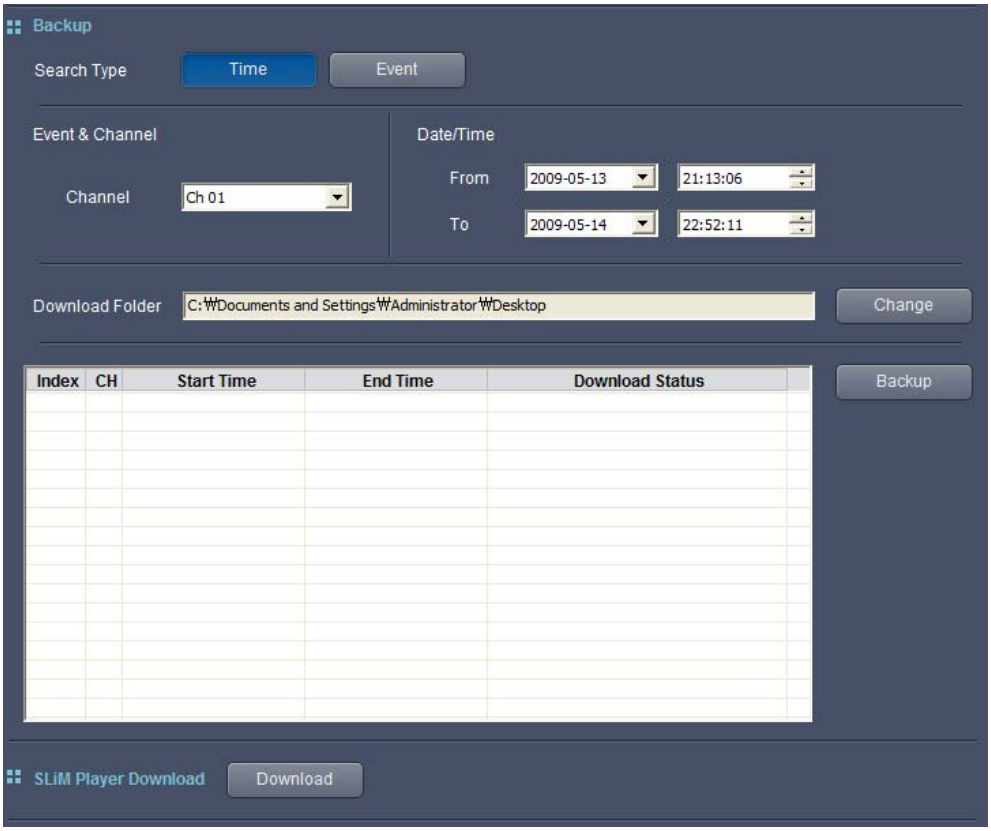
如果希望更改用户帐户的 ID、密码或权限，可以在 User ID（用户 ID）中输入新的 ID、在 Password（密码）中输入密码，或者选中要授予用户帐户的权限来实现。单击 Apply 启用更改。

注意

只有单击 Apply 按钮后才会应用新设置。

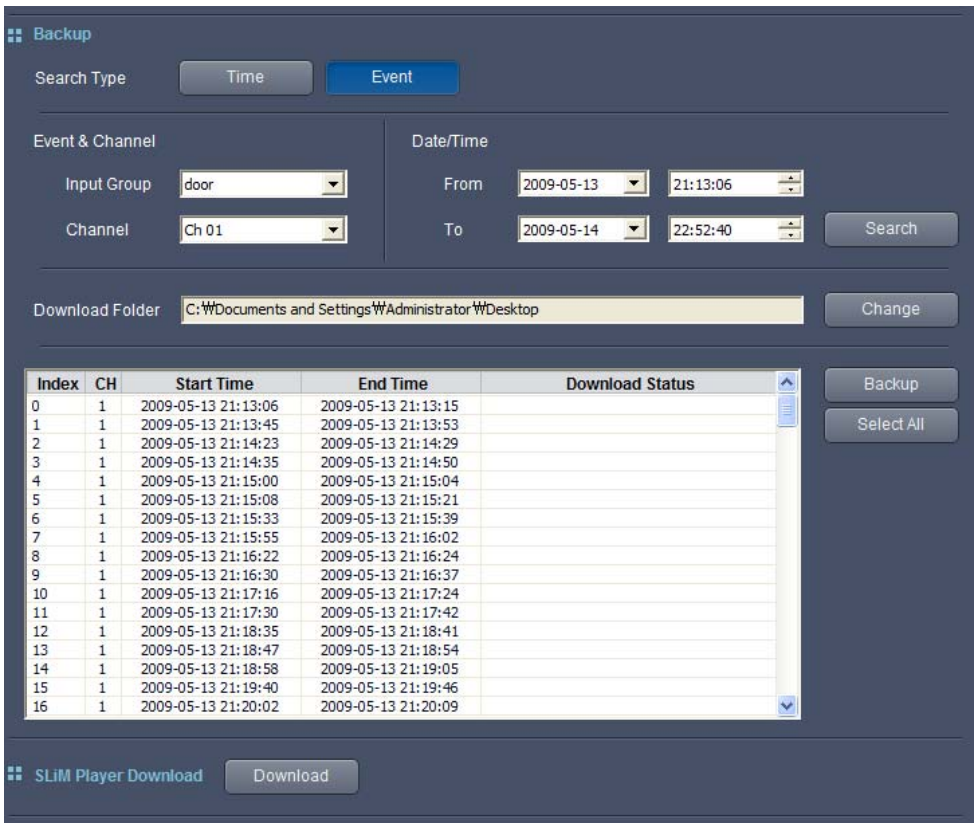
4.7.4. 备份

将视频文件从产品备份到计算机。



要选择备份视频文件的拍摄时间段，可以单击 Time 按钮。

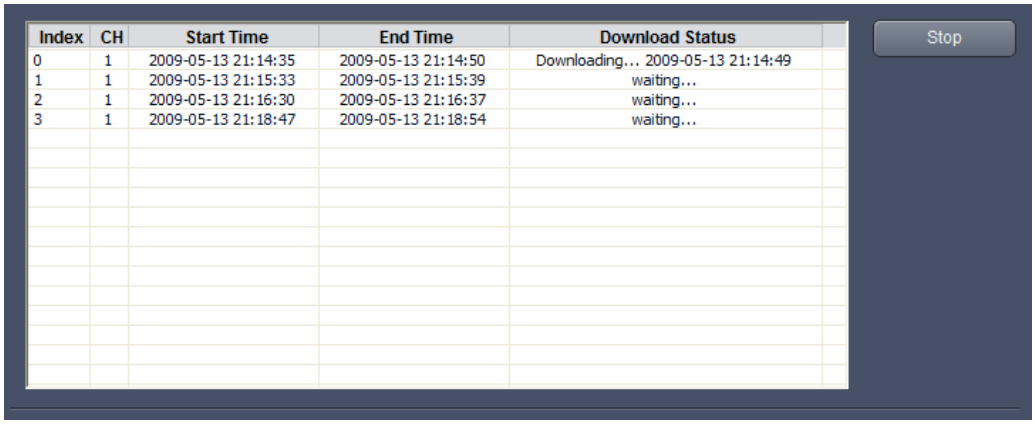
从 Channel（信道）下拉列表中选择某个信道将在 Date/Time（日期/时间）菜单的 From（开始时间）和 To（结束时间）窗格中显示该信道的拍摄时间段。在 From（开始时间）和 To（结束时间）窗格中选择备份视频文件的开始和结束时间，然后单击 Backup 按钮开始备份视频文件。



要备份特定事件的视频文件，可以使用 Event（事件）按钮搜索事件。在 Input Group（输入组）窗格中选择某个 Event Input Group（事件输入组）将会显示包含选定事件视频文件的信道列表。选择信道、在 From（开始时间）和 To（结束时间）窗格中选择想要备份的时间段，然后单击 Search 按钮显示选定时间段内保存的选定事件视频文件的列表。选择列表中的备份视频文件，然后单击 Backup 按钮开始备份文件。要选择多个文件，可以按住 Ctrl 键单击或按住 Shift 键单击。单击 Select All 按钮可以选择所有搜索结果。

注意

- 最长可搜索期限为 7 天。
- 如果选定搜索期限内记录了超过 500 个事件视频文件，则不会搜索累积记录 500 或更多视频文件那天之后保存的数据。（例如，如果搜索从 10 日到 15 日的视频文件，并且到 11 日前已累积保存了 800 个视频文件，则程序不会搜索 11 日以后保存的数据，并且只显示最多 800 个文件的搜索结果。）
- Normal Record（正常拍摄）模式时发生的事件无法搜索。
- 在备份处理期间，不要单击鼠标按钮或按任何键。如果通过选择其他项目或移至其他选项卡改变窗口上鼠标的位置，则备份将无法正确执行。如果在处理期间进入另一个项目，则备份将会停止。



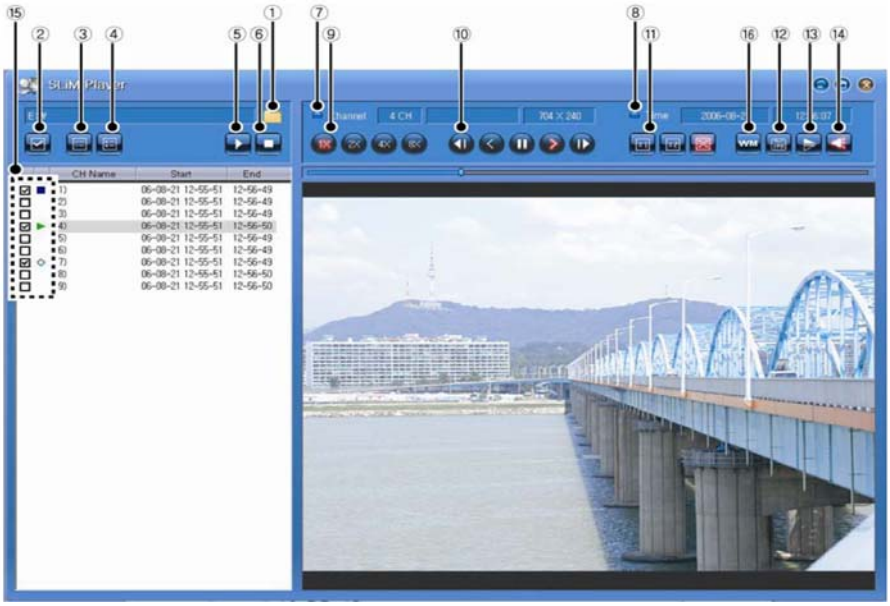
备份任务执行过程中会显示 Stop 按钮。要中止备份过程，可以单击 Stop 按钮。（中止备份之前下载的视频文件将保存在备份目录中。）

要更改下载文件夹，可以单击 Change 按钮。
备份视频文件时将在指定的下载文件夹中自动创建子文件夹。子文件夹的名称在产品 IP 地址之后，例如 SRN-6450_Backup_192.168.1.100，并且该文件夹中包含备份视频文件。

备份的视频文件可使用 SLiM Player 播放。要下载 SLiM Player，可以单击页面底部的 Download 按钮。

注意

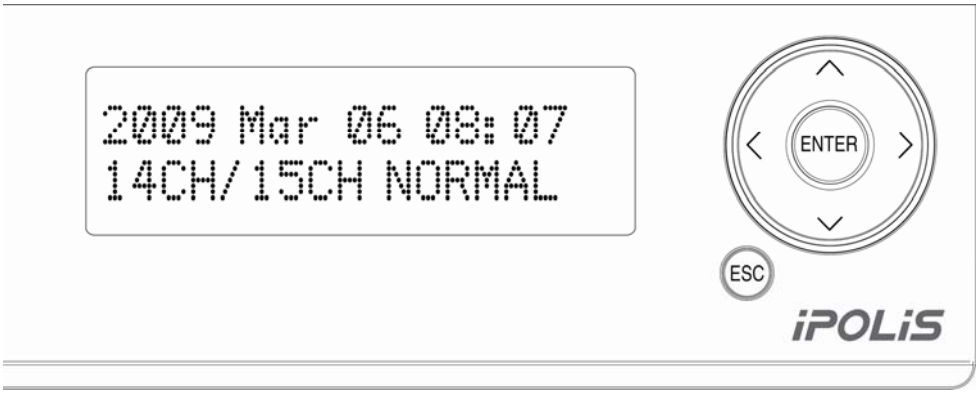
SLiM Player 的按钮和功能如下所列。



按钮	名称	功能
1	选择文件夹	使用该按钮打开包含备份视频文件的文件夹。可用视频文件按照时间或信道顺序列出。
2	选择/取消选择所有	选择或取消选择所有文件。
3	选择文件	选择一个或多个文件。
4	取消选择文件	取消选择一个或多个文件。
5	播放	按顺序播放选定的文件。
6	停止	停止播放，并取消选择播放列表中的文件。
7	信道信息	显示保存的信道信息。
8	时间信息	显示正在播放的视频文件的运行时间。
9	播放速度	调整播放器的播放速度：1x、2x、4x 和 8x。
10	播放选项	播放选项： 后退一帧 后退 暂停 前进 前进一帧
11	屏幕 大小	调整播放器的屏幕大小。 - 1x/2x/全屏 - 704x240 和 704x288 视频可扩大 2 倍而不会降低图像质量。
12	屏幕快照	将当前屏幕快照保存为 JPEG 文件。
13	旋转 180°	将当前屏幕旋转 180°。
14	音频	打开或关闭音频。
15	播放列表	◇：挂起 ▶：前进 ◀：后退 ▌▌：暂停 ■：停止
16	水印检查	激活或禁用 Watermark Check（水印检查）选项。

第 5 章 LCD 设置

前面板 LCD 默认显示当前时间和拍摄状态（如下所示。）



LCD 中的第一行表示年、月、日、小时和分钟。第二行表示活动信道/总信道数和 RAID 模式。

通过使用 LCD 和 ＜、∧、∨、＞、ENTER 和 ESC 按钮定位到右侧，您可以检查系统的状态和更改某些设置。

- **向上和向下按钮：**用于在菜单间移动，并可在文本模式中选择字母和数字。
- **向左和向右按钮：**用于在文本输入模式中移动光标。
- **ENTER 按钮：**移动到下一个阶段。
- **ESC 按钮：**按下时将返回到前一个阶段。按住 2 秒或更长时间将移动到显示当前时间和拍摄状态的主屏幕。

注意

当前面板钥匙锁处于锁定状态时，这些按键将被锁定。

5.1. 系统

在默认 LCD 屏幕中，按 ∧、∨ 移动到如下所示的屏幕并按 ENTER。

```
1. System
            [SET]
```

在您使用 ∧、∨ 按钮进行导航的地方将出现子菜单。

```
1. Firmware Version
2. Key Beep On/Off
```

```
3. Relay off
4. System Update
```

```
5. Factory Reset
6. Test HDD
```

```
7. System Power Off
```

5.1.1. 检查固件版本

在 System（系统）中，选择 1. Firmware Version（固件版本），然后按 Enter。系统的当前固件版本将按照下图所示显示。

以下是一幅样本图片供参考，固件版本会因型号而异。

```
Firmware Version
0.1.4-090309
```

5.1.2. 打开/关闭蜂鸣声

您可以使用该菜单项打开或关闭前面板按钮的蜂鸣声。

在 System（系统）中，选择 2. Key Beep On/Off（打开/关闭按键蜂鸣声），然后按 Enter。

```
1. On
2. Off
```

选择“1. On（开）”，然后按 Enter 即可打开蜂鸣声。选择“2. Off（关）”，然后按 Enter 即可关闭蜂鸣声。每种情况都会显示以下消息。

```
Key Beep is On!
```

```
Key Beep is Off!
```

注意

即使关闭蜂鸣声，重新启动系统后仍会自动打开。

5.1.3. 继电器关闭

在 System（系统）中，选择 3. Relay Off（继电器关闭），然后按 Enter 按钮。当取出后面板继电器 1、2 的输出时将出现以下消息。

```
Relays are off!
```

注意

- 有关继电器输出设置的详细说明，请参考 “4.6.3. 事件设置”
- 如果按面板上的任何按钮，则事件发生后随即发出的蜂鸣声将被关闭。

5.1.4. 系统更新

注意

- 要更新系统，必须将包含更新文件的 USB 闪存驱动器连接到后面板的 USB 端口。
- 固件更新文件的文件名必须以“srn”开头，且扩展名必须是“.bin”。
- 固件更新文件必须在闪存驱动器的根目录中。如果闪存驱动器中存在多个更新文件，固件更新可能无法正常安装。
- 要下载最新的固件文件，请访问 www.samsungcctv.com 的 Support（支持）> Download Center（下载中心）。

在 System（系统）中，选择 4. Firmware Version（固件版本），然后按 Enter。

如果检测到包含固件更新的 USB 闪存驱动器，系统将显示消息提示您是否希望继续或停止更新，如下所示。

```
Warning! All actions
will be stopped
```

```
Update Firmware?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，同时执行固件更新。当更新过程完成后，系统将自动重新启动。要返回上一阶段，可以按 ESC。要取消更新并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
System Update
   is in Progress...
```

```
System will reboot
after 5 seconds
```

```
Rebooting system
   is in Progress...
```

如果 USB 闪存驱动器没有插入产品后面板的 USB 端子中，将出现以下错误消息。

```
There's no usb stick
Check usb please...
```

如果 USB 闪存驱动器已插入，但不包含固件更新文件，则会出现以下错误消息。

```
No f/w file in usb
Check usb please...
```

5.1.5. 初始化设置

在 System（系统）中，选择 5. Factory Reset（出厂重置），然后按 Enter。显示器上将出现消息提示您确认是否希望将所有配置重置为默认设置。

```
Warning! All actions
Will be stopped
```

```
Are you sure?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，并开始初始化设置。初始化完成后，系统将恢复到出厂默认设置。要返回上一阶段，可以按 ESC。要取消初始化并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Factory reset
   is in Progress...
```

```
System will reboot
after 5 seconds
```

```
Rebooting system
   is in Progress...
```

有关默认设置值的更多信息，请参考 “2.3. 默认设置“

注意

Factory Reset（出厂重置）不会重置系统的 RAID 设置或删除 HDD 中保存的数据。

5.1.6. HDD 检查

在 System（系统）中，选择 6. Test HDD（检查 HDD），然后按 Enter。将出现以下消息提示您选择要检查的 HDD。

```
HDD to examine
Internal HDD? [1]
```

```
HDD to examine
RAID PARTITION? [1]
```

选择 HDD 将显示消息询问您是否真的希望对选定的 HDD 执行磁盘检查。

```
Record on this HDD
will be stopped
```

```
Are you sure?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，同时初始化磁盘检查过程。该过程完成后，屏幕将显示检查结果。

```
Executing...
Please Wait!!!
```

```
Examining Int HDD[1]
   is in Progress...
```

```
Examining Int HDD[1]
            [DONE]
```

```
HDD test result:
0 bad block
```

检查结果将一直显示在屏幕上，直到您单击某个按钮。

当选择不可用或未连接的 HDD 时，将出现以下消息。

```
Internal HDD [1]
is empty!!
```

```
RAID PARTITION [1]
Does not exist!
```

```
Check HDD to Examine
Please Try Again
```

注意

- 正在检查 HDD 时，新数据将不保存在 HDD 或 RAID 阵列中。但是，如果另一个 HDD 或 HDD 阵列可用，则新数据会保存在该 HDD 或阵列中。
- HDD 磁盘检查选项仅适用于内部 HDD。

5.1.7. 关闭系统

在 System（系统）中，选择 7. System Power Off（系统关机），然后按 Enter。将出现以下消息提示您是否确实希望关闭系统。

```
Are you sure?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，同时关闭系统。要返回上一阶段，可以按 ESC。要取消关机并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Preparing Poweroff
   is in Progress...
```

```
System will be down
in seconds
```

这些消息还会在轻触产品后面板上的电源开关时出现，直到系统完全关闭。

5.2. 网络设置

在默认 LCD 屏幕中，按 ∧、∨ 移动到如下所示的屏幕并按 ENTER。

```
2. Network Setup
            [SET]
```

在您使用 ∧、∨ 按钮进行导航的地方将出现子菜单。

```
1. Monitoring Port
2. Source Port
```

```
3. Storage Port
```

注意

有关每种网络设置及其操作的信息，请参考 "4.6.6. 网络设置"

5.2.1. 监视器以太网端口

Monitor Ethernet Port（监视器以太网端口）是用于将计算机连接到产品的端口。

在 Network Setup（网络设置）中，选择 1. Monitor Ethernet Port（监视器以太网端口），并按 ENTER。

```
1. Use Static IP
2. Use DHCP (Client)
```

```
3. Use PPPoE
4. Use DDNS
```

使用前 3 个选项之一为 Monitor Ethernet Port（监视器以太网端口）设置 IP 地址。选择菜单项 4 可以使用 DDNS 代替 IP 地址。

❖ 静态 IP 设置

按 ∧ 和 ∨ 选择 1. Use Static IP（使用静态 IP），然后按 Enter。

```
IP Address
0.0.0.0
```

按 ∧、∨ 按钮选择数字 (0~9)、空格和句点 (.)；按 ＜、＞ 按钮在数字间移动。完成输入 IP 地址后，按 Enter。

```
Subnet Mask
0.0.0.0
```

```
Gateway
0.0.0.0
```

```
DNS1 Server IP
192.168.1.1
```

按照同样的方法输入 Subnet Mask（子网掩码）、Gateway（网关）和 DNS Server 1（DNS 服务器 1）的地址。

```
Confirm IP Setup?
Yes: Enter  No: Esc
```

按 Enter 移动到下一屏幕，同时将保存 Monitor Ethernet Port（监视器以太网端口）的 IP 地址。要返回上一阶段，可以按 ESC。要取消新设置并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
IP Setup
            [DONE]
```

注意

- DNS1 地址可在 Monitor Ethernet Port（监视器以太网端口） > Static IP（静态 IP）中设置。DNS 2 地址可在 Source Port（源端口） > Static IP（静态 IP）中设置。设置完成后，所有端口都将使用这些 DNS 服务器。
- DNS1 作为默认服务器使用，而 DNS2 为后备服务器。

❖ DHCP 客户端设置

按 ∧ 和 ∨ 选择 2. Use DHCP (Client)（使用 DHCP（客户端）），然后按 Enter。

```
Use DHCP Client?
Yes: Enter  No: Esc
```

按 Enter 移动到下一屏幕，同时 Monitor Ethernet Port（监视器以太网端口）将更新为使用 DHCP。要返回上一阶段，可以按 ESC。要取消新设置并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Client Mode Setup
            [DONE]
```

❖ PPPoE 设置

按 ∧ 和 ∨ 选择 3. Use PPPoE（使用 PPPoE），然后按 Enter。

```
ID
a
```

按 ∧、∨ 按钮选择字符 (a~z) 和空格；按 ＜、＞ 按钮移动到下一个字符。输入要使用的 ID 完成后，按 Enter。

```
Password
a
```

重复这些步骤输入密码，然后按 Enter。

```
Confirm PPPoE Setup?
Yes: Enter  No: Esc
```

按 ENTER 移动到下一屏幕，同时将保存 Monitor Ethernet Port（监视器以太网端口）的新 PPPoE 设置。要返回上一阶段，可以按 ESC。要取消新设置并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
PPPoE Setup
            [DONE]
```

注意

- 将网络连接方法从 PPPoE 更改到 DHCP 或 Static IP（静态 IP）将自动重新启动系统。

❖ DDNS 设置

按 ∧ 和 ∨ 选择 4. Use DDNS（使用 DDNS），然后按 Enter。

```
Server Domain
www.samsungipolis.co
```

默认的 DDNS 服务器是 www.samsungipolis.com。要使用 iPOLiS 以外的 DDNS 服务器，可以使用 ∧ 和 ∨ 选择字母数字字符（a-z 和 0-9）、空格和句点 (.)；使用 < 和 > 可以在字符间移动和编辑默认 DDNS 地址。

DDNS 服务器地址输入完成后，按 Enter。

```
ID
a
```

```
Password
a
```

重复这些步骤输入新 DDNS 服务器的登录 ID 和密码。

```
Confirm DDNS Setup?
Enter: Yes  Esc: No
```

按 Enter 移动到下一屏幕，同时将保存新的 DDNS 设置。要返回上一阶段，可以按 ESC。要取消新设置并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
DDNS Server Setup
            [DONE]
```

5.2.2. 源以太网端口设置

Source Ethernet Port（源以太网端口）用于产品和摄像机之间的通信。

在 Network Setup（网络设置）中，选择 2. Source Ethernet Port（源以太网端口），并按 ENTER。

```
1. Use Static IP
2. Use DHCP (Client)
```

```
3. Use PPPoE
4. Use DHCP (Server)
```

使用前 3 个选项之一为 Source Ethernet Port（源以太网端口）设置 IP 地址。有关端口设置的详细说明，请参考 “5.2.1. 监视器以太网端口
“
中的静态 IP、DHCP 客户端和 PPPoE 设置。

选择菜单项 4 可以使用 DHCP Server（DHCP 服务器）选项。

❖ DHCP 服务器设置

按 ∧ 和 ∨ 选择 4. Use DHCP (Server)（使用 DHCP（服务器）），然后按 Enter。

```
IP Range: from
0
```

按 ∧、∨ 按钮选择数字 (0~9)、空格和句点 (.)；使用 < 和 > 在字符间移动。

```
IP Range: to
0
```

重复这些步骤输入地址范围的结束 IP 地址。

```
Use DHCP Server?
Yes: Enter  No: Esc
```

按 Enter 移动到下一屏幕，同时将保存新的 DDNS 服务器设置。要返回上一阶段，可以按 ESC。要取消新设置并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Server Mode Setup
            [DONE]
```

5.2.3. 存储以太网端口设置

Storage Ethernet Port（存储以太网端口）用于产品和 NAS 之间的通信。

在 Network Setup （网络设置）中，选择 3. Use Storage Ethernet Port（使用存储以太网端口），并按 ENTER。

```
1. Use Static IP
2. Use DHCP (Client)
```

```
3. Use PPPoE
```

使用 3 个选项之一为 Source Ethernet Port（源以太网端口）设置 IP 地址。有关端口设置的详细说明，请参考 “5.2.1. 监视器以太网端口“

5.3. HDD 模式设置

在主屏幕中，按 ∧ 和 ∨ 移动到以下屏幕，并按 ENTER。

```
3. HDD Mode Setup
             [SET]
```

在您使用 ∧ 和 ∨ 按钮进行导航的地方将出现子菜单。

```
1. Normal
2. RAID1
```

```
2. RAID1
3. RAID5
```

选择一种 HDD 工作模式，然后按 Enter。随即将出现以下警报消息。Normal（正常）即非 RAID 模式。

```
Warning! All Record
data will be removed
```

显示此警告消息 3 秒钟之后，屏幕将移动到对应于选定模式的下一个屏幕。

```
Unbuild RAID?
Yes: Enter  No: Esc
```

```
Use RAID1?
Yes: Enter  No: Esc
```

```
Use RAID5?
Yes: Enter  No: Esc
```

按 Enter 将 HDD 模式更改为选定的模式。要返回上一阶段，可以按 ESC。要取消新设置并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

正在配置新的 RAID 模式时，将按顺序出现以下消息，提示进度和剩余时间。

```
Preparing RAID1
   is in Progress...
```

```
Rebooting system
   is in Progress...
```

```
Build RAID1: 48.8%
Finish: 37.6min
```

```
RAID1 Setup
            [DONE]
```

（当选择 RAID1 或 RAID5 时。）

```
Unbuilding RAID
   is in Progress...
```

```
Rebooting system
   is in Progress...
```

```
Unbuilding RAID
            [DONE]
```

（当选择 Normal（正常）时。）

如果 HDD 已经设置为新 RAID 模式，则会出现以下消息。

```
Current HDD mode is
RAID1 mode
```

```
Current HDD mode is
Normal mode
```

```
Check HDD mode and
Please Try Again!
```

如果装备的 HDD 数量不足，将会出现以下消息。RAID1 需要至少装备 2 个 HDD（HDD1 和 HDD2，或者 HDD3 和 HDD4），而 RAID5 需要装备全部 4 个 HDD。

```
There are not enough
HDD to build RAID5
```

```
Check HDD mode and
Please Try Again!
```

注意

- RAID（独立磁盘冗余阵列）有助于在系统 HDD 损坏的情况下保护数据安全。
- 选择 RAID1 将 HDD1 和 HDD2 配置为一个阵列，并将 HDD3 和 HDD4 配置为另一个阵列。RAID1 使用 2 个物理 HDD 作为 1 个功能性 HDD。例如，将 HDD1 和 HDD2（各自装备一块 500GB 的 HDD）配置为 RAID1 将显示系统的功能性 HDD 为一个 500GB RAID。在 RAID1 模式中，即使 RAID 阵列的两块 HDD 中的一个损坏也不会丢失任何数据。
- 选择 RAID5 可以将 4 块 HDD 配置为 1 个 RAID 阵列。RAID5 使用 4 个物理 HDD 作为 3 个功能性 HDD。例如，将 HDD1、2、3 和 4（各自装备一块 500GB 的 HDD）配置为 RAID5 将显示系统的功能性 HDD 为一个 1.5TB RAID。在 RAID5 模式中，即使四块 HDD 中的一个损坏也不会丢失任

何数据。

- 要配置 RAID 模式，HDD 必须为相同大小。强烈建议您使用相同品牌和型号的 HDD 配置 RAID。
- RAID 设置仅适用于内部 HDD。
- 使用 4 x 500GB HDD 构建 RAID1 需要大约 3 小时，构建 RAID5 需要大约 4 小时。

  (建议您在配置 RAID 时使用 UPS，因为第一次尝试期间出现电源故障而导致的重新配置 RAID 需要一小会时间。)

注意

- **将 RAID 设置更改为新模式将自动删除产品 HDD 中的所有数据，并且在完成新 RAID 模式配置前不会保存新的视频文件。**
- **当产品非正常关机（例如拔出交流电源适配器）后再开机时，产品可能会自动重新配置其 RAID 设置以确保已保存数据的完整性。正在配置新 RAID 模式时，现有的数据不会丢失，但同样不会保存新的数据。**
- **如果已配置 RAID 的 HDD 中有两个以上的 HDD 损坏或从产品中取出，则 RAID 配置将无法正常工作，从而导致数据丢失。**

5.4. 取出 HDD

在主屏幕中，按 ∧ 和 ∨ 移动到以下屏幕，并按 ENTER。

```
4. Remove HDD
             [SET]
```

在可以使用 ∧ 和 ∨ 选择待取出 HDD 的地方将出现如下所示的屏幕。

```
HDD Number to remove
Internal HDD? [1]
```

```
HDD Number to remove
External Bay? [1]
```

选择内部 HDD 或外部 HDD 仓的编号，然后按 Enter。按 Enter 键时将显示以下消息，同时将取出选定的 HDD。

```
Executing...
Please Wait!!!
```

```
Remove Int HDD[1]
            [DONE]
```

```
Remove Ext Bay[1]
            [DONE]
```

当出现 [Done（完成）] 消息时，您可以从产品中物理取出 HDD。

当选择不可用或未连接的 HDD 时，将出现以下消息。

```
Internal HDD[1]
is empty!!
```

```
External Bay[1]
is not connected!!
```

```
Check HDD to Remove
Please Try Again
```

注意

内部 HDD 或外部 HDD 仓的编号取决于所连接的产品端口。按照上方从左到右到下方从左到右的顺序依次可使用编号 1、2、3 和 4。请参考 “第 2 章 部件名称“

5.5. 格式化 HDD

在主屏幕中，按 ∧ 和 ∨ 移动到如下所示的屏幕，然后按 ENTER。

```
5. HDD Format
             [SET]
```

在可以使用 ∧ 和 ∨ 选择待格式化 HDD 的地方将出现如下所示的屏幕。

```
1. Internal HDD
2. External HDD
```

```
2. External HDD
3. All HDD
```

5.5.1. 格式化单个内部 HDD

在 HDD Format（HDD 格式化）中，选择 1. Internal HDD（内部 HDD），然后按 Enter。

```
1. Individual HDD
2. All Internal HDD
```

1. 选择 1. Individual HDD（单个 HDD），然后按 Enter。

```
HDD Number to format
Internal HDD? [1]
```

使用 ^、v 按钮选择要格式化的 HDD 的编号，然后按 ENTER。

```
Format HDD [1]?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，同时将格式化选定的 HDD。要返回上一阶段，可以按 ESC。要取消格式化并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Formatting HDD
   is in Progress...
```

```
HDD Format
             [DONE]
```

当选择不可用或未连接的 HDD 时，将出现以下消息。

```
Internal HDD[1]
is empty!!
```

```
Check HDD to format
Please Try Again!
```

5.5.2. 格式化所有内部 HDD

在 HDD Format（HDD 格式化）中，选择 1. Internal HDD（内部 HDD），然后按 Enter。

```
1. Individual HDD
2. All Internal HDD
```

2. 选择 All HDD（所有 HDD），然后按 Enter。

```
Format All HDD?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，同时将格式化所有内部 HDD。要返回上一阶段，可以按 ESC。要取消格式化并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Formatting HDD
   is in Progress...
```

```
HDD Format
            [DONE]
```

5.5.3. 格式化单个外部 HDD

在 HDD Format（HDD 格式化）中，选择 2. External HDD（外部 HDD），然后按 Enter。

```
Bay Number to format
External Bay? [1]
```

使用 ∧ 和 ∨ 选择包含要格式化 HDD 的外部 HDD 仓的编号，然后按 ENTER。

```
1. Individual HDD
2. All HDD in Bay[1]
```

1. 选择 1. Individual HDD（单个 HDD），然后按 Enter。

```
HDD Number to format
Internal HDD? [1]
```

使用 ∧ 和 ∨ 选择包含要格式化 HDD 的外部 HDD 仓的编号，然后按 ENTER。

```
Format HDD [1]?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，同时将格式化选定的 HDD。要返回上一阶段，可以按 ESC。要取消格式化并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Formatting HDD
   is in Progress...
```

```
HDD Format
            [DONE]
```

当选择不可用或未连接的 HDD 时，将出现以下消息。

```
External Bay[1]
is not connected!!
```

```
External Bay[1]
is not connected!!
```

5.5.4. 格式化所有外部 HDD

在 HDD Format（HDD 格式化）中，选择 2. External HDD（外部 HDD），然后按 Enter。

```
Bay Number to format
External Bay [1]
```

使用 ∧ 和 ∨ 选择包含要格式化 HDD 的外部 HDD 仓的编号，然后按 ENTER。

```
1. Individual HDD
2. All HDD in Bay[1]
```

2. 选择 All HDD in Bay[#]（仓[#]中的所有 HDD），然后按 Enter。

```
Format Bay[1]?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，同时将格式化选定外部仓内的所有 HDD。要返回上一阶段，可以按 ESC。要取消格式化并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Formatting HDD
   is in Progress...
```

```
HDD Format
            [DONE]
```

5.5.5. 格式化所有 HDD

在 HDD Format（HDD 格式化）中，选择 3. All HDD（所有 HDD），然后按 Enter。

```
Format All HDD?
Yes: Enter  No: Esc
```

按 Enter 键时将显示以下消息，同时将格式化所有（包括内部和外部）HDD。要返回上一阶段，可以按 ESC。要取消格式化并返回到主屏幕，可以按住 ESC 2 秒钟或更长时间。

```
Formatting HDD
   is in Progress...
```

```
HDD Format
            [DONE]
```

故障排除

1. 无法启动。

- 检查电源。
- 检查电源线。

2. 某些信道无法显示视频。

- 检查摄像机电源。
- 检查摄像机视频输出。
- 检查录像机的输入端口。

3. 无法存储视频。

- 在 HDD Setup（HDD 设置）页面检查 HDD 连接。
- 检查 HDD 的空闲空间。
- 检查视频拍摄设置。

4. 无法播放存储的视频。

- 检查视频拍摄设置。

5. 视频过亮或过暗。

- 检查摄像机设置。

6. 前面板按钮不起作用。

- 检查电源。
- Check Key Lock status.

7. 网络无法工作。

- 检查网线连接。
- 检查录像机的 IP 设置。
- 检查 PC 的 IP 设置。
- 运行 Ping 测试
- 如果 Web Viewer 无法在 PC 上显示视频，则检查 PC 的技术规格。

8. 发生以下情况时，请务必联系您的供应商…

如果遇到任何以下问题，请停止使用本产品并立即关闭电源，然后联系您的供应商寻求帮助。

- 产品行为异常（例如：异常的噪音、气味，或者产品冒烟。）
- 电源线接头已损坏。
- 雨水或其他液体流入产品。
- 产品内溅入液体，或者进入异物。
- 产品无法按照本说明手册中指定的方式工作。
- 产品跌落并严重损坏。
- 产品性能出现明显的降级。

※ 推荐的 HDD

请为三星网络视频录像机使用来自以下制造商的 HDD 产品：

强烈建议您使用来自以下制造商的数据容量为 1TB 或更少的 HDD 型号。

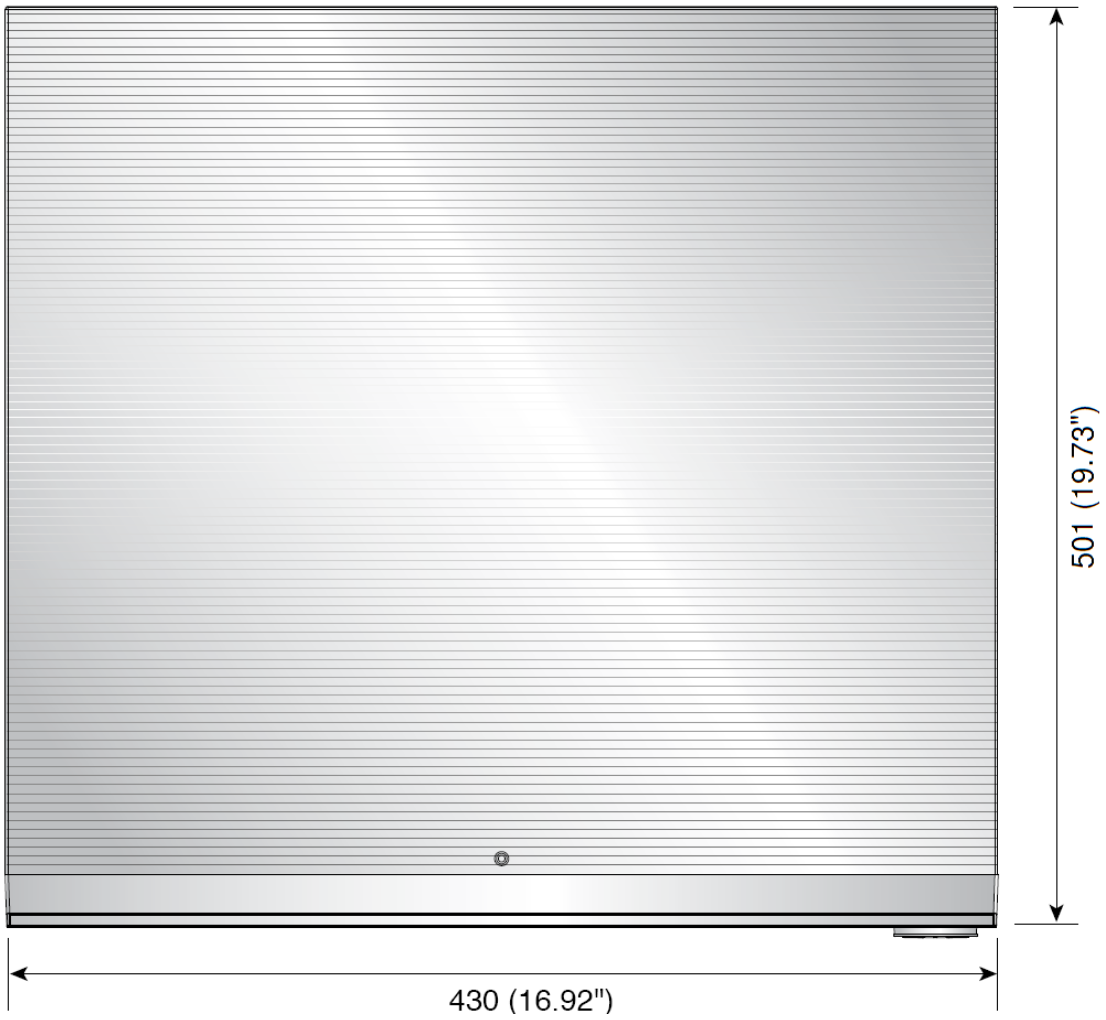
- Western Digital AV Series.
- Seagate SV 35.5 Series.

产品规格

		SRN-6450/SNR-6400	SRN-3250/SNR-3200
显示			
视频	IP 摄像机输入	64 信道	32 信道
网络支持	现场	同时 1、4、9、16、36、64 信道	同时 1、4、9、16、32 信道
	搜索	同时 1 信道	
	控制	平移/倾斜/缩放/对焦（针对可用的摄像机）	
	配置	IP、端口、ID、密码、、图片类型、视频质量、分辨率、帧速率	
性能			
拍摄	压缩 (IP)	H.264、MPEG-4、M-JPEG，连接的摄像机支持	
	带宽	最多 48Mbps（每部摄像机最多 8Mbps）	最多 36Mbps（每部摄像机最多 8Mbps）
	拍摄速率/MEGA	最大 160fps@2048x1536	最大 60fps@2048x1536
		最大 320fps@1280x1024	最大 120fps@1280x1024
	拍摄速率/NTSC	最大 1280fps@704 x 240	最大 480fps@704 x 480
		最大 1920fps@704 x 240	最大 960fps@704 x 240
		最大 1920fps@352 x 240	最大 960fps@352 x 240
	拍摄速率/PAL	最大 1152fps@704 x 576	最大 480fps@704 x 480
		最大 1600fps@704 x 288	最大 800fps@704 x 288
		最大 1600fps@352 x 288	最大 800fps@352 x 288
	* 模式	手动、定时（正常/事件）	
	覆盖模式	连续	
	警报前	最多 5 秒	
	警报后	最多 60 秒	
搜索和播放	搜索模式	时间、事件、日历	
	播放功能	REW（后退）、FWD（前进）（取决于 CMS）	
网络	带宽控制	自动（自动传输控制）	
	最大远程用户数	同时 5 人	
	协议支持	TCP/IP、DHCP、DNS、DDNS、HTTP、ARP、ICMP、NTP、RTP/RTCP、RTSP	
	监控	CMS 软件 (NET-I Viewer)，内置 web 服务器	
存储	最大容量	使用外部存储选件最高可达 20TB	
	RAID	正常、RAID1、RAID5	正常、RAID1
	内部 HDD	同时 4 个 SATA HDD	
	外部 HDD	最多 4 个扩展仓（每个最多包含 4 个 HDD）	
	NAS	最多 4 个 NAS 连接 (CIFS/Samba)	
安全	密码保护	2 个用户级别	
接口			
监视器	DOT Matrix LCD	20 x 2 状态显示器	
警报	输入	螺丝端子 2 输入，NO/NC	
	输出	螺丝端子 2 继电器输出、NO/NC	
	远程通知	通过电子邮件通知	
连接	以太网	3 (RJ45 100/1000 Base-T), 1 (RJ45 100Base-T)	
	串行接口	RS-232C	

连接	USB	2 个 USB 2.0 端口（固件升级）
	eSATA	4 个外部 SATA 端口
支持的 IP 摄像机		Samsung Techwin 网络产品、 AXIS network cameras (VAPIX,MPEG4 Modes, limitted some functions)
常规		
电气	输入电压	100 至 240 VAC ±10%; 50/60 Hz, 自动调整范围
	功耗	最大 110W (1x HDD)
		最大 130W (4x HDD)
环境	工作温度	+5°C 至 +40°C（+41°F 至 +104°F）
	湿度	0%RH 至 60%RH
机械	尺寸（宽 x 高 x 深）	430 x 88 x 501 mm (16.92" x 3.46" x 19.73 ")
	重量 (4 HDD)	约 11kg (24.25 lb)
	机架安装套件	用于在 EIA 19 英寸机架中安装一台设备
语言 (LCD)		English（英语）
认证		FCC（A 类）、cUL/UL 列名、CE（A 类）

产品尺寸



Open Source License Report on the Product

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 Software : linux kernel, Sysvinit, dosfstols, wget, msmtp, busybox, cdrtools, dvd+rw-tools, iconv, smartctl, uboot, minicom, openssl, bash, lm_sensors
•LGPL Software : glibc, vmstat, inetutils
•OpenSSL License : OpenSSL

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

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

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.
We protect your rights with two steps:
(1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.
Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.
Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.
The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

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 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.

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 (C) 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.

_. 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.

_. 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.

_. 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 (C) 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 (c) 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 aheared to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes cryptographic software written by Eric Young (eay@ cryptsoft.com)" The word 'cryptographic' can be left out if the rouines 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.

正确处理本产品（废旧电气和电子设备）

（适用于欧盟和其他采用分类回收系统的欧洲国家。）

此标志出现在产品或其印刷物中，它表示当本产品使用寿命结束时不能与其他废弃生活垃圾一同进行处理。
为防止处理不当可能对环境或人类健康造成的伤害，请将本产品与其他类型的垃圾分开并对其进行回收，以便提高资源的可持续利用。

家庭用户应联系本产品的零售商或地方政府办公室，以便了解安全环保地回收本产品的地方和方法。

商业用户应联系其供应商并检查购买合约的条款和条件。本产品不应该与其他商业垃圾混合处理。

正确处理本产品中的电池

（适用于欧盟和其他采用分类电池回收系统的欧洲国家。）

电池、手册或包装上的此标志表示该产品中的电池不能与其他废弃生活垃圾一同进行处理。标志处的化学符号 Hg，Cd 或 Pb 表示该电池所包含的汞、镉或铅的含量超过 EC 标准 2006/66 的参考水平。如果未能对电池进行正确处理，这些物质可能会对人类健康或环境造成伤害。

为保护自然资源并促进资源再利用，请将该电池与其他类型的垃圾分开，并通过当地的免费电池回收系统进行回收。

用户不可自行更换本产品中使用的可充电式电池。有关更换电池的信息，请联系您的服务提供商。

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

www.samsungsecurity.cn