

WISeNET

CODIFICADOR DE VÍDEO DE RED

Manual del usuario

SPE-100



Codificador de vídeo de red

Manual del usuario

Copyright

©2017 Hanuwa Techwin Co., Ltd. Reservados todos los derechos.

Marca comercial

Todas las marcas aquí mencionadas están registradas. El nombre de este producto y otras marcas mencionadas en este manual son marcas registradas de sus respectivas compañías.

Restricción

Reservados los derechos de autor de este documento. Este documento no se deberá reproducir, distribuir ni cambiar, de modo total o parcial, bajo ninguna circunstancia, sin autorización formal.

Renuncia

Hanuwa Techwin hace lo máximo por verificar la integridad y exactitud del contenido de este documento, pero no se proporciona ninguna garantía formal. El uso de este documento y los resultados posteriores será total responsabilidad del propio usuario. Hanuwa Techwin se reserva el derecho a cambiar el contenido de este documento sin aviso previo.

❖ El diseño y las especificaciones están sujetos a cambio sin aviso.

❖ El ID inicial del administrador es "admin" y la contraseña debe establecerse al iniciar sesión por primera vez. Por favor, cambie su contraseña cada tres meses para proteger de forma segura la información personal y evitar daños por el robo de información.

Por favor, tenga en cuenta que es responsabilidad del usuario la seguridad y otros problemas causados por el mal manejo de una contraseña.

INSTRUCCIONES DE SEGURIDAD IMPORTANTES

1. Lea estas instrucciones.
2. Consérvelas.
3. Atente para todas las advertencias.
4. Siga todas las instrucciones.
5. No utilice este aparato cerca del agua.
6. Limpie el área contaminada en la superficie del producto con un paño seco y suave o un paño húmedo.
(No utilice detergente o productos cosméticos que contengan alcohol, disolventes o tensioactivos o constituyentes de aceites, ya que pueden deformar o dañar el producto).
7. No obstruya ninguna apertura de ventilación. Instale el aparato siguiendo las instrucciones del fabricante.
8. No lo instale cerca de ninguna fuente de calor como radiadores, focos de calor o cualquier otro aparato (incluidos los amplificadores) que emita calor.
9. No olvide que la finalidad de los enchufes polarizados o de toma a tierra es proporcionarle seguridad. Un enchufe polarizado tiene dos clavijas, una más ancha que la otra. Un enchufe con toma a tierra tiene dos clavijas y una tercera de toma a tierra. Tanto la clavija más ancha, en el caso del enchufe polarizado, como la clavija adicional, en el caso del enchufe con toma a tierra, tienen como objetivo aportarle seguridad. Si el enchufe del aparato no encaja en su toma de corriente, póngase en contacto con un electricista para cambiar la toma de corriente obsoleta.
10. Evite pisar o doblar el cable de alimentación. Ponga especial cuidado para no hacerlo en enchufes, tomas de corriente y en los puntos en los que salen desde el aparato.
11. Utilice únicamente los dispositivos y accesorios especificados por el fabricante.
12. Utilice sólo las mesitas con ruedas, soportes, trípodes o mesas recomendadas por el fabricante o vendidas con el aparato. Cuando se utilice una mesita con ruedas, tenga cuidado al mover la mesita con ruedas junto con el aparato para evitar daños por vuelco.
13. Desenchufe este aparato durante tormentas eléctricas o cuando no se utilice durante largos períodos de tiempo.
14. Remita todas las reparaciones a personal de mantenimiento cualificado. Es necesario enviar el aparato para su reparación cuando ha sufrido cualquier tipo de daño, como, por ejemplo, que el cable o el enchufe de la alimentación está dañado, se han derramado líquidos sobre el aparato o algún objeto ha caído sobre él, el aparato ha sido expuesto a la lluvia o a humedad, no funciona correctamente o se ha caído al suelo.
15. Este producto está diseñado para utilizar una fuente de alimentación identificada de "Clase 2" y nominal de 12 V CC, 1,5 A mín.



ADVERTENCIA

PARA REDUCIR EL RIESGO DE INCENDIO O DESCARGA ELÉCTRICA, MANTENGA ESTE DISPOSITIVO LEJOS DE LLUVIA Y/O LA HUMEDAD. NO INSERTE NINGÚN OBJETO METÁLICO EN LAS REJILLAS DE VENTILACIÓN NI EN NINGUNA ABERTURA DEL EQUIPO.

No debe exponer el aparato a gotas ni salpicaduras de agua ni a objetos con líquido, como jarrones, evitando colocarlos sobre el aparato.

PRECAUCIÓN

	PRECAUCIÓN NO ABRIR RIESGO DE SUFRIR UNA DESCARGA ELÉCTRICA	
PRECAUCIÓN : PARA REDUCIR EL RIESGO DE SUFRIR UNA DESCARGA ELÉCTRICA. NO RETIRE LA CUBIERTA (NI LA PARTE POSTERIOR). DENTRO NO HAY PIEZAS QUE PUEDAN SER REPARADAS POR EL USUARIO. REMITA EL APARATO A PERSONAL DE MANTENIMIENTO CUALIFICADO.		

EXPLICACIÓN DE LOS SÍMBOLOS GRÁFICOS



Un triángulo con un rayo y una punta de flecha es un símbolo de advertencia para avisar al usuario de la presencia de “voltajes peligrosos” dentro de la carcasa del producto que pueden ser lo suficientemente intensas como para constituir un peligro de descarga eléctrica.



Un triángulo con un signo de exclamación es un símbolo de advertencia para avisar al usuario de que hay instrucciones importantes de funcionamiento y mantenimiento (reparaciones) en la documentación que acompaña al aparato.

Construcción de clase I

Un aparato con construcción de CLASE I se conectará a una toma de corriente con la conexión de protección de tierra.

Batería

No debe exponer las baterías (paquete de batería o pilas instalados) a calor excesivo, a la luz directa del sol ni al fuego, etc.

PRECAUCIÓN

Existe un riesgo de explosión si la batería se sustituye por otra que no sea adecuada.

Tire las baterías usadas como se indica en las instrucciones.

Estas instrucciones de servicio están destinadas únicamente a personal de servicio técnico cualificado.

Para reducir el riesgo de descarga eléctrica no realice ninguna operación de servicio que no sean las indicadas en las instrucciones de funcionamiento a menos que esté cualificado para hacerlo.

descripción

Lea detenidamente las precauciones de seguridad recomendadas que se incluyen a continuación.

- No coloque este aparato sobre una superficie desigual.
- No lo instale en una superficie expuesta a la luz directa del sol, cerca de equipos de calefacción ni cerca de áreas frías.
- No coloque este aparato cerca de material conductivo.
- No intente reparar este aparato por sí solo.
- No coloque jarrones sobre el producto.
- No lo instale cerca de fuentes magnéticas.
- No bloquee las aberturas de ventilación.
- No coloque objetos pesados sobre el producto.

El Manual del usuario es una guía sobre cómo utilizar los productos.

El significado de los signos que se utilizan en el manual es el siguiente.

- Referencia : en caso de que se facilite información de ayuda sobre el uso del producto
 - Aviso : si existe alguna posibilidad de que se produzcan daños en bienes o lesiones en personas causadas por no seguir las instrucciones
- ※ Lea este manual por razones de seguridad antes de utilizar los productos y guárdelo en un lugar seguro.

ÍNDICE GENERAL

DESCRIPCIÓN

3

- 3 Instrucciones de Seguridad Importantes
- 9 Características del Producto
- 9 Características Recomendadas del Ordenador
- 10 CaRaCTeRÍSTiCaS Recomendadas DeL Tarjeta de memoRia SD/SDHC
- 10 Componentes
- 11 Terminal

INSTALACIÓN Y CONEXIÓN

14

- 14 Nsertar/Eliminar una Tarjeta de Memoria SD
- 15 Información de la Tarjeta de Memoria (no incluida)
- 16 Conexión con otros dispositivos

CONEXIÓN Y CONFIGURACIÓN DE LA RED

21

- 21 Conexión Del Codificador de Vídeo de Red Directamente a la Red de Área Local
- 22 Conexión Del Codificador de Vídeo de Red Directamente a un Módem de Cable/DSL Basado En Dhcp
- 23 Conexión del Codificador de Vídeo De Red Directamente a un Módem Pppoe
- 24 Conexión del Codificador de Vídeo de Red a un Enrutador de Banda Ancha Con El Módem de Cable/PPPoE
- 25 Botones utilizados en IP Installer
- 26 Configuración de IP estática
- 29 Configuración de IP dinámica
- 30 Configuración de reenvío del rango de puertos (Asignación de puertos)
- 32 Conexión al dispositivo de red desde un PC local compartido
- 32 Conexión al codificador de Vídeo de red desde un PC remoto a través de Internet

WEB VIEWER

33

- 33 conexión del codificador de vídeo de red
- 35 Configuración de contraseña
- 35 Inicio de Sesión
- 36 Instalación de Silverlight Runtime
- 40 Instalación del Plugin WebViewer
- 42 Utilización de la Pantalla en Directo
- 45 Reproducción de vídeo

PANTALLA DE CONFIGURACIÓN

51

- 51 Configuración
- 51 Configuración de Vídeo y Audio
- 58 Configuración Red
- 68 Configuración de Eventos
- 80 Configuración del Sistema

APÉNDICE

88

- 88 Especificaciones
- 90 Vista del Producto
- 91 Solución de Problemas
- 93 Open Source License Notification On The Product

CARACTERÍSTICAS DEL PRODUCTO

• Flujo de datos múltiple

Este codificador de vídeo de red puede mostrar simultáneamente vídeos en diferentes resoluciones y calidades utilizando CÓDECS diferentes.



- No obstante, el vídeo MPEG-4 no se puede reproducir en una página Web. Utilice el software CMS para reproducir vídeo en una página Web.

• Soporte de varios protocolos de comunicación

• Supervisión basada en el Explorador Web

Utilización de un explorador web de Internet para mostrar la imagen en un entorno de red local.

• Alarma

Si está conectado un sensor de alarma y detecta movimiento, se envía un mensaje a la dirección registrada a través de FTP/correo electrónico o se almacena en la tarjeta de memoria SD, o una alarma enviará la señal al terminal de salida de alarma.

• Compatibilidad con ONVIF

Este producto admite ONVIF.

Para más información, consulte www.onvif.org.



Driving network video through global standardization

CARACTERÍSTICAS RECOMENDADAS DEL ORDENADOR

- CPU : Intel Core 2 Duo de 2,4 GHz o superior
 - El plug-in de Web se optimiza según el conjunto de instrucciones de SSE 4.1.
- Sistema operativo : Windows XP, VISTA, 7, Mac OS X 10.7 o superior
- Resolución : 1280X1024 píxeles o superior (Color de 32 bits)
- RAM : 2GB o superior
- Navegador Web : Internet Explorer 7.0 o superior, Firefox 9.0 o superior, Chrome 15.0 o superior, *Safari 5.1 o superior
 - No se admitirá ni la versión de prueba que no sea la existente en el sitio web de la compañía ni la versión del desarrollador.
 - Para la conexión tipo IPv6, se recomienda Windows 7 o superior.
 - Para Mac OS X, sólo admite el navegador Safari.
- Memoria de Vídeo : 256MB o superior



- Si no se ha instalado correctamente el adaptador de gráficos de vídeo o no es la versión más reciente, es posible que el vídeo no se reproduzca correctamente.
- Para un sistema de vigilancia múltiple con al menos 2 monitores, el rendimiento de la reproducción se puede deteriorar dependiendo del sistema.

CARACTERÍSTICAS RECOMENDADAS DEL TARJETA DE MEMORIA SD/SDHC

- 4GB ~ 32GB
- Para el codificador de vídeo de red, recomendamos utilizar una tarjeta de memoria de los siguientes fabricantes : Tarjeta de Memoria SD/SDHC : Sandisk, Transcend
- Se recomienda utilizar una tarjeta de memoria adaptada como mínimo a la Clase 6.

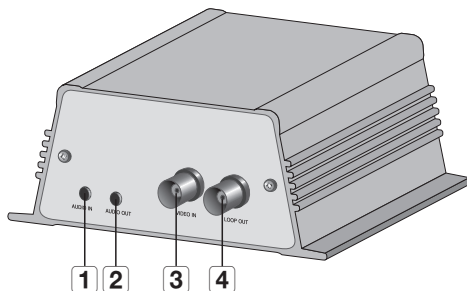
COMPONENTES

Compruebe si el codificador de vídeo red y los accesorios se incluyen en el paquete del producto.

Aspecto	Nombre de elemento	Cantidad	Descripción
	Codificador de vídeo de Red	1	
	Manual de instrucciones, CD de instalación	1	Manual del usuario, Manual de consulta rápida, programa de software IP Installer
	Manual de consulta rápida (Opcional)	1	
	Tarjeta de garantía (Opcional)	1	
	TORNILLO DE MONTAJE de rosca cortante	4	Se utiliza para la instalación en pared o en techo

TERMINAL

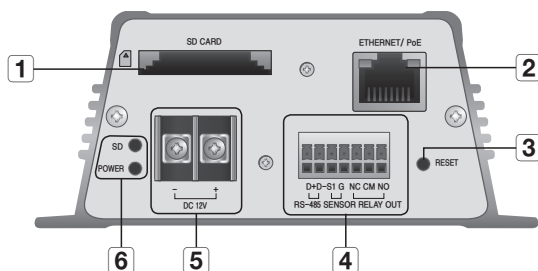
Lado frontal



Elemento	Descripción
1 AUDIO IN	Terminal de entrada de audio que trae de sonido del codificador de vídeo de red. Se utiliza para conectar el micrófono.
2 AUDIO OUT	Terminal de salida de audio que genera la salida del sonido desde el codificador de vídeo de red. Se utiliza para conectar el altavoz.
3 VIDEO IN	Se utiliza para conectar la señal de entrada de vídeo BNC.
4 LOOP OUT	Se utiliza para controlar la señal de vídeo BNC.

descripción

Lado trasero



Elemento	Descripción	
1 Compartimento de la tarjeta de memoria SD	Compartimento de la tarjeta de memoria SD.	
2 Puerto Red	Se utiliza para conectar un cable PoE o Ethernet.	
3 Botón de reinicialización	Manténgalo pulsado durante 5 segundos para reiniciar con los valores predeterminados de fábrica.	
4 I/O Bağlantı Noktası	D+	Línea de datos RS-485
	D-	Línea de datos RS-485
	S1	Entrada de alarma
	G	TIERRA
	NC	Salida de alarma (para Normal Cerrado)
	CM	Salida de alarma (Común)
	NO	Salida de alarma (para Normal Abierto)

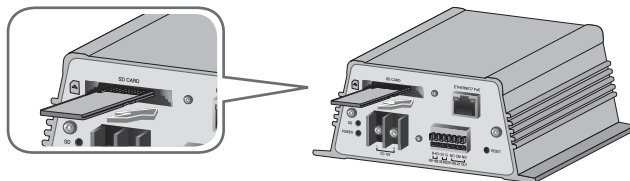
Elemento	Descripción	
5 Puerto de Alimentación	Se utiliza para conectar la fuente de alimentación especificada.	
6 SD de alimentación y Indicadores	SD	ENC. : hay una tarjeta de memoria insertada y funciona con normalidad. Parpadeante : fallo al grabar, espacio insuficiente o se ha insertado de forma incorrecta. APAG. : el codificador de vídeo de red está apagado, se está reiniciando o la tarjeta de memoria no está en su sitio. Cuando la grabación está desactivada.
	POWER	ENC. : mientras la unidad está encendida APAG. : si la unidad está apagada

instalación y conexión

INSERTAR/ELIMINAR UNA TARJETA DE MEMORIA SD

Insertar una Tarjeta de Memoria SD

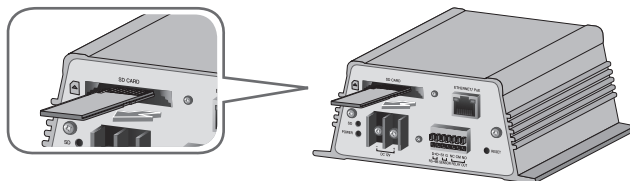
Presionar la tarjeta de memoria SD en la dirección de la flecha mostrada en el esquema.



- No inserte al revés la tarjeta de memoria SD a la fuerza. Si lo hace, podría dañar la tarjeta de memoria SD.

Eliminar una Tarjeta de Memoria SD

Presione suavemente hacia abajo en el extremo expuesto de la tarjeta de memoria como se muestra en el esquema para sacarla de la ranura.



- Si presiona muy fuerte en la tarjeta de memoria SD, podría ser que saliera disparada de forma incontrolada cuando la suelte.
- Para extraer la tarjeta de memoria SD, apague el codificador o coloque el dispositivo en **<Des>** de **<Almacenamiento>** y pulse el botón **[Aplicar (Aplicar)]**. (página 69)
- Si apaga el codificador o retira del producto una tarjeta de memoria SD que contiene datos, estos datos pueden perderse o dañarse.
- Si se ha insertado la memoria SD y la grabación está activada, se encenderá el indicador LED de SD de la parte trasera del codificador de vídeo de red.
- Si hay un problema en la memoria SD, parpadeará el indicador LED de SD.

INFORMACIÓN DE LA TARJETA DE MEMORIA (NO INCLUIDA)

¿Qué es una tarjeta de memoria?

La tarjeta de memoria es un dispositivo de almacenamiento de datos externo que se ha desarrollado para ofrecer una forma totalmente nueva para grabar y compartir datos de vídeo, audio y texto utilizando dispositivos digitales.

Seleccionar una tarjeta de memoria adecuada para usted

El codificador de vídeo de red admite tarjetas de memoria SD/SDHC.

Sin embargo, podría experimentar problemas de compatibilidad dependiendo del modelo y marca de la tarjeta de memoria.

Para el codificador de vídeo de red, recomendamos utilizar una tarjeta de memoria de los siguientes fabricantes : Tarjeta de Memoria SD/SDHC : Sandisk, Transcend

Se recomienda utilizar una tarjeta de memoria adaptada como mínimo a la Clase 6.

El rendimiento de la reproducción se puede ver afectada por la velocidad de la tarjeta de memoria, así que utilice la tarjeta de memoria de alta velocidad.

Uso de la Tarjeta de Memoria

Las tarjetas de memoria SD y SDHC cuentan con una pestaña que deshabilita la escritura de datos en el medio.

Si la pestaña se coloca en la posición Bloqueo evitará que se borren accidentalmente los datos almacenados en la tarjeta, pero a la vez también evitará escribir datos en el medio.

Componentes de Tarjeta de Memoria



instalación y conexión

CONEXIÓN CON OTROS DISPOSITIVOS

Conexión al monitor

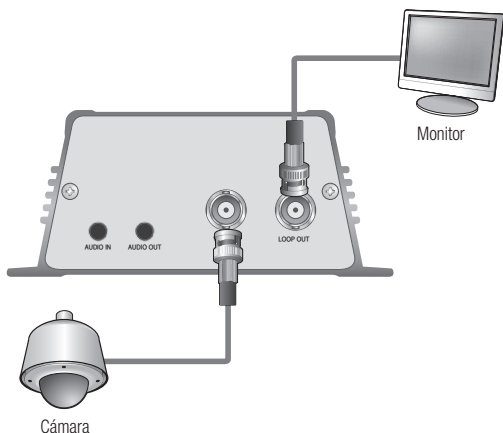
Conecte el puerto **[LOOP OUT]** del codificador de vídeo de red al puerto de entrada de vídeo del monitor.



- En la instalación inicial de la codificador de vídeo de red, puede conectar la codificador de vídeo de red al monitor para comprobar el estado de la conexión.
- LOOP OUT se facilita para la supervisión de la prueba de salida.

Conexión de la cámara

Conecte el puerto **[VIDEO IN]** del codificador de vídeo de red al puerto de salida de vídeo de la cámara.



Conexión Ethernet

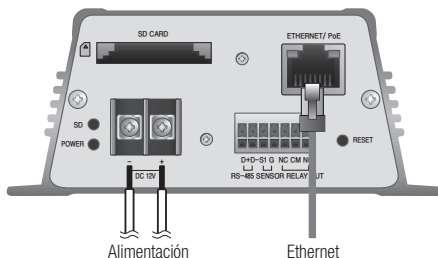
Conecte el cable Ethernet a la red local o a Internet.

Alimentación eléctrica

Utilice el destornillador para conectar cada línea (+, -) del cable de alimentación al puerto de alimentación correspondiente del codificador de vídeo de red.



- Tenga cuidado de no invertir la polaridad al conectar el cable de alimentación. También puede utilizar un enrutador que incorpore PoE (Alimentación sobre Ethernet) para suministrar energía al dispositivo.
- Si se aplica PoE y 12 V de CC, este dispositivo obtendrá alimentación de PoE.
- Si desea conectar un dispositivo externo, debe apagar el dispositivo externo antes de continuar.



Resistencia eléctrica de cable de cobre a [20°C (68°F)]

Calibre de hilo americano (AWG)	n° 24 (0,22 mm²)	n° 22 (0,33 mm²)	n° 20 (0,52 mm²)	n° 18 (0,83 mm²)
Resistencia (Ω/m)	0,078	0,050	0,030	0,018
Tensión de caída (V/m)	0,028	0,018	0,011	0,006
Distancia recomendada (m)	Menos de 20	Menos de 30	Menos de 30	Menos de 30

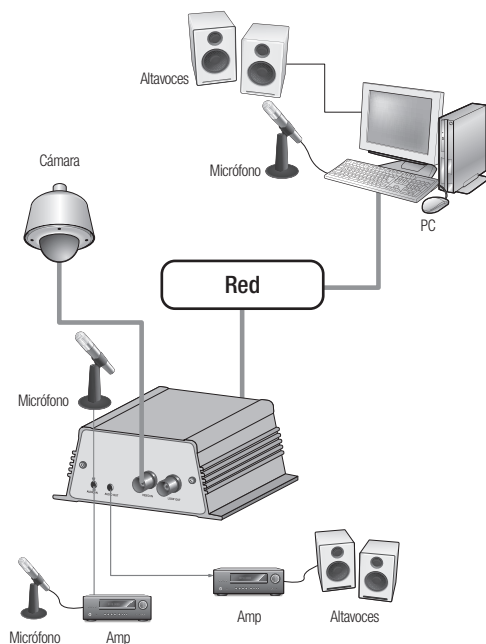
- Como se muestra en la tabla anterior, es posible que encuentre un punto de tensión baja dependiendo de la longitud del cable.

Si utiliza un cable excesivamente largo para la conexión del codificador de vídeo de red, es posible que éste no funcione debidamente.

- Tensión de funcionamiento del codificador de vídeo de red: 12 VCC $\pm$ 10%
- Las mediciones de caída de tensión del diagrama anterior pueden variar dependiendo del tipo y el fabricante del cable de cobre.

instalación y conexión

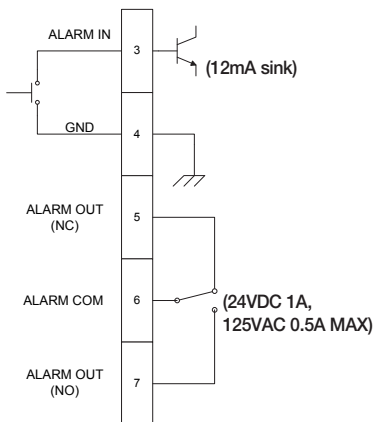
Conectar la Entrada/Salida de Audio



1. Conecte un micrófono directamente a LINE OUT del amplificador que está conectado con un micrófono a AUDIO IN del codificador de video de red.
2. Conecte el puerto AUDIO OUT de la codificador de video de red con el micrófono o al puerto LINE IN del amplificador al que está conectado el altavoz.
3. Compruebe las especificaciones de entrada de audio.

- **Códec de Audio**
G.711 PCM, muestreo μ -law 64kbps 8kHz
- **Audio Full dúplex**
- **Entrada de Audio**
Utilizado para entrada de línea de señal única (Máx. 2,4 Vpp)
- **Salida de audio**
Utilizado para salida de línea de señal única (Máx. 2,4 Vpp)
- **Impedancia de salida de línea**
600 Ω

Diagrama de cableado de E/S de alarma

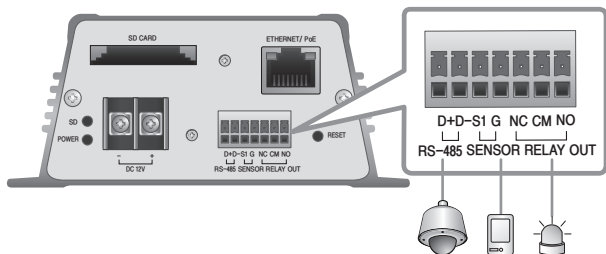


- Para controlar la alimentación con los contactos eléctricos, se necesita un circuito aparte.

instalación y conexión

Conexión al cuadro del puerto de E/S

Conecte la señal de E/S de alarma al puerto correspondiente del cuadro de puertos trasero.



Terminal	Descripción	Terminal	Descripción
D+	Línea de datos RS-485	NC	Salida de alarma (para Normal Cerrado)
D-	Línea de datos RS-485	CM	Salida de alarma (Común)
S1	Entrada de alarma	NO	Salida de alarma (para Normal Abierto)
G	TIERRA		

Conexión del dispositivo RS-485

Conecte el dispositivo externo a los puertos **[RS-485 D+, D-]**.

No puede instalar y controlar la cámara PTZ que posibilita la comunicación RS-485.

- Dependiendo del tipo de cámara, la paridad de la conexión puede ser diferente.
Para obtener información adicional, consulte la documentación de la cámara PTZ correspondiente.

Conexión a la entrada de alarma

Conecte un cable de señales (de los 2) del sensor aplicable al puerto **[S1]**, y el otro al puerto **[G]**.

Conexión de la salida de alarma

Conecte el cable de señales (de los 2) del dispositivo externo aplicable a **[Salida de alarma (NC, NO)]**, y el otro al puerto **[CM]**

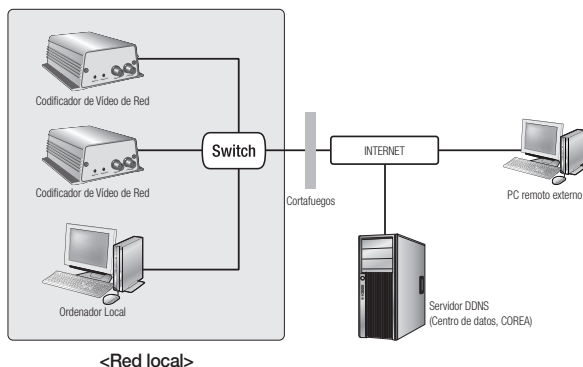
conexión y configuración de la red

Puede fijar la configuración de red de acuerdo con sus configuraciones de red.

CONEXIÓN DEL CODIFICADOR DE VÍDEO DE RED DIRECTAMENTE A LA RED DE ÁREA LOCAL

Conexión al codificador de vídeo de red desde un PC local en la LAN

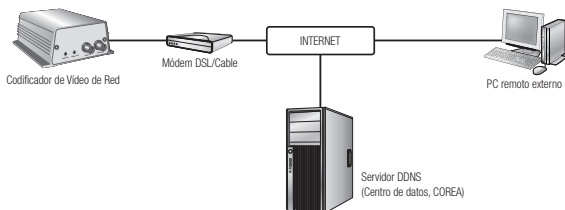
1. Abrir un navegador de Internet en su ordenador local.
2. Introduzca la dirección IP del codificador de vídeo de red en la barra de direcciones del navegador.



- Un PC remoto en una Internet externa a la red LAN es posible que no pueda conectar al codificador de vídeo de red instalado en la intranet si el reenvío de puertos no se configura correctamente o si existe un cortafuegos. En este caso, para solucionar el problema, póngase en contacto con su administrador de red.
- En el programa de instalación de IP, puede utilizar la contraseña inicial, "4321" para configurar la dirección IP, máscara de subred, puerta de enlace, puerto HTTP, puerto VNP, tipo de IP. Después de cambiar la interfaz de red, para mayor seguridad, acceda al visor web y cambie la contraseña.
- Como valor predeterminado de fábrica, la dirección IP se asignará automáticamente desde el servidor DHCP. Si no hay ningún servidor DHCP disponible, la dirección IP se definirá en 192.168.1.100. Para cambiar la dirección IP, utilice Instalador IP. Para obtener más detalles sobre el uso de Instalador IP, consulte "Configuración de IP estática". (página 26)

conexión y configuración de la red

CONEXIÓN DEL CODIFICADOR DE VÍDEO DE RED DIRECTAMENTE A UN MÓDEM DE CABLE/DSL BASADO EN DHCP

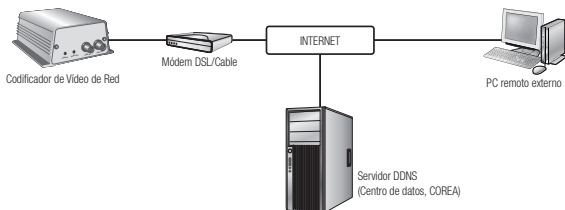


1. Conecte el PC usuario directamente con el codificador de vídeo de la red.
2. Ejecute IP Installer y cambie la dirección IP del codificador de vídeo de red de forma que pueda utilizar el explorador Web de su escritorio para conectar a Internet.
3. Utilice el navegador de Internet para conectar a Web Viewer.
4. Vaya a la página **[Setup]**.
5. Vaya a **[Network] – [DDNS]** y configure los ajustes de DDNS.
6. Vaya a **[Network] – [Interfaz]** y defina el tipo de red en **[DHCP]**.
7. Conecte el codificador de vídeo de red retirado del PC, directamente en el módem.
8. Reinicie el codificador de vídeo de red.



- Para registrar los ajustes de DDNS, consulte "**Registro con DDNS**". (página 61)
- Para configurar los ajustes de DDNS, consulte "**DDNS**". (página 60)
- Para definir el tipo de red, consulte "**Interfaz**". (página 58)

CONEXIÓN DEL CODIFICADOR DE VÍDEO DE RED DIRECTAMENTE A UN MÓDEM PPPoE



1. Conecte el PC usuario directamente con el codificador de vídeo de la red.
2. Ejecute IP Installer y cambie la dirección IP del codificador de vídeo de red de forma que pueda utilizar el explorador Web de su escritorio para conectar a Internet.
3. Utilice el navegador de Internet para conectar a Web Viewer.
4. Vaya a la página **[Setup]**.
5. Vaya a **[Network]** – **[DDNS]** y configure los ajustes de DDNS.
6. Mover a la página de configuración de **[Network]** – **[Interfaz]**, fije el tipo de red **[PPPoE]** e introduzca identificación y contraseña.
7. Conecte el codificador de vídeo de red retirado del PC, directamente en el módem.
8. Reinicie el codificador de vídeo de red.

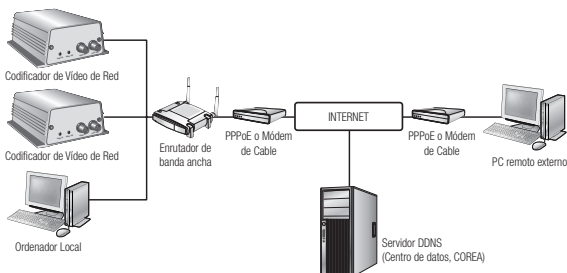


- Para registrar los ajustes de DDNS, consulte **"Registro con DDNS"**. (página 61)
- Para configurar los ajustes de DDNS, consulte **"DDNS"**. (página 60)
- Para definir el tipo de red, consulte **"Interfaz"**. (página 58)

conexión y configuración de la red

CONEXIÓN DEL CODIFICADOR DE VÍDEO DE RED A UN ENRUTADOR DE BANDA ANCHA CON EL MÓDEM DE CABLE/PPPoE

Se utiliza para un ambiente de red pequeño como hogares, oficinas pequeñas y tiendas normales.



Configurar la red del ordenador local conectado a un Enrutador de banda ancha

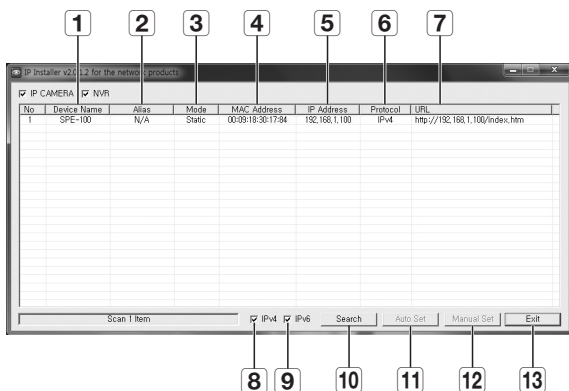
Configure la configuración de red del ordenador local conectado a un Enrutador de banda ancha, siga las instrucciones siguientes.

- Seleccione : <Network Neighborhood> → <Properties> → <Local Area Connection> → <Properties> → <General> → <Internet Protocol (TCP/IP)> → <Properties> → <Obtain an IP address automatically> o <Use the following IP address>.
- Siga las siguientes instrucciones si selecciona <Use the following IP address>:
 - ej.1) Si la dirección (IP de LAN) del enrutador de banda ancha es 192.168.1.1
Dirección IP : 192.168.1.100
Máscara de subred : 255.255.255.0
Puerta de enlace por defecto : 192.168.1.1
 - ej.2) Si la dirección (IP de LAN) del enrutador de banda ancha es 192.168.0.1
Dirección IP : 192.168.0.100
Máscara de subred : 255.255.255.0
Puerta de enlace por defecto : 192.168.0.1
 - ej.3) Si la dirección (IP de LAN) del enrutador de banda ancha es 192.168.xxx.1
Dirección IP : 192.168.xxx.100
Máscara de subred : 255.255.255.0
Puerta de enlace por defecto : 192.168.xxx.1



- Para obtener la dirección del Enrutador de banda ancha, véase la documentación del producto.
- Para obtener información adicional sobre el reenvío de puertos del enrutador de banda ancha, consulte "Configuración de Reenvío del Rango de Puertos (Asignación de Puertos)". (Página 30)

BOTONES UTILIZADOS EN IP INSTALLER



Elemento	Descripción
1 Device Name	Nombre del modelo del dispositivo de red conectado. Haga clic en la columna para ordenar la lista por nombre de modelo. Sin embargo, la búsqueda puede detenerse si se hace clic durante la búsqueda.
2 Alias	Esta función no está actualmente implantada.
3 Mode	Muestra <Static>, <Dynamic> o <PPPoE> para el estado de conexión de red.
4 MAC(Ethernet) Address	Dirección Ethernet del dispositivo de red conectado. Haga clic en la columna para ordenar la lista por dirección Ethernet. Sin embargo, la búsqueda puede detenerse si se hace clic durante la búsqueda.
5 IP Address	Dirección IP. Haga clic en la columna para ordenar la lista por dirección IP. Sin embargo, la búsqueda puede detenerse si se hace clic durante la búsqueda.
6 Protocol	Ajustes de red del dispositivo de red. El ajuste predeterminado de fábrica es "IPV4". Si un codificador de video de red se define en IPV6, muestra "IPV6".

conexión y configuración de la red

Elemento	Descripción
7 URL	La dirección URL de DDNS que permite acceder desde Internet externa. No obstante, se sustituirá por la <IP Address> de la codificador si ha fallado el registro de DDNS.
8 IPv4	Rastrea los dispositivos de red que tengan el ajuste IPv4.
9 IPv6	Rastrea los dispositivos de red que tengan el ajuste IPv6. Se activa en un entorno compatible con IPv6.
10 Search	Rastrea los dispositivos de red que estén actualmente conectadas a la red. No obstante, este botón aparecerá atenuado si no se marca ni IPv4 ni IPv6.
11 Auto Set	IP Installer configura automáticamente los ajustes de red.
12 Manual Set	Debe configurar manualmente los ajustes de red.
13 Exit	Sale del programa IP Installer.



- Para IP installer, utilice sólo la versión que se facilita en el CD de instalación o utilice la última versión si está disponible. Puede descargar la versión más reciente desde el sitio Web de Hanwha Techwin.

CONFIGURACIÓN DE IP ESTÁTICA

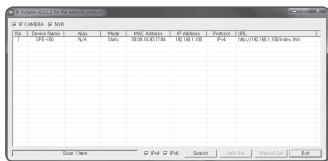
Configuración de red manual

Ejecute <IP Installer_v2.XX.exe> para ver la lista de búsqueda de dispositivos de red. En el arranque inicial, aparecerán atenuadas **[Auto Set]** y **[Manual Set]**.



- En los dispositivos de red encontrados con el ajuste IPv6, estos botones aparecerán atenuados ya que los dispositivos de red no admiten esta función.

- Seleccione un dispositivo de red en los resultados de la búsqueda. Compruebe la dirección MAC del dispositivo que figura en la etiqueta del dispositivo de red. Se activará tanto **[Auto Set]** como **[Manual Set]**.
- Haga clic en **[Manual Set]**. Aparece el diálogo de ajustes manuales. <IP Address>, <Subnet Mask>, <Gateway>, <HTTP Port> y <VNP Port> de los dispositivos de red aparecen con sus valores predeterminados.



3. En el panel <Address>, facilite la información necesaria.

- MAC (Ethernet) Address : La dirección MAC impresa en la etiqueta del dispositivo de red se muestra automáticamente y no requiere de ninguna configuración por parte del usuario.



- Los respectivos parámetros IP sólo se pueden establecer cuando el DHCP no está seleccionado.

Si se utiliza un Enrutador de banda ancha

- IP Address: introduzca una dirección que se encuentre en el rango de IP facilitado por el Enrutador de banda ancha.
ej.) 192.168.1.2~254,
192.168.0.2~254,
192.168.XXX.2~254
- Subnet Mask : la <Subnet Mask> del enrutador de banda ancha será la <Subnet Mask> del codificador de vídeo de red.
- Gateway : la <Local IP Address> del enrutador de banda ancha será la <Gateway> del codificador de vídeo de red.



- Es posible que los ajustes difieran dependiendo del modelo de Enrutador de banda ancha conectado. Para obtener información adicional, consulte el manual de usuario del enrutador aplicable.
- Para obtener información adicional sobre el reenvío de puertos del enrutador de banda ancha, consulte "Configuración de Reenvío del Rango de Puertos (Asignación de Puertos)". (Página 30)

Si no se utiliza un Enrutador de banda ancha

Para el ajuste de <IP Address>, <Subnet Mask> y <Gateway>, póngase en contacto con el administrador de red.

4. En el panel <Port>, facilite la información necesaria.

- HTTP Port : se utiliza para acceder al dispositivo de red utilizando el explorador de Internet, por defecto en 80.
- VNP Port : se utiliza para controlar la transferencia de señales de vídeo, por defecto en 4520.

5. Introduzca la contraseña.

- Introduzca la contraseña de la cuenta "admin" que se haya utilizado para acceder al dispositivo de red.

conexión y configuración de la red



- A efectos de seguridad, se recomienda utilizar una combinación de números, letras del alfabeto en mayúsculas y minúsculas, y caracteres especiales para su contraseña.
- Si desea cambiar la contraseña, consulte "**Cambiar contraseña de administrador**" de la configuración de usuario. (página 82)

6. Haga clic en **[OK]**.

La configuración manual de la red queda completada.

Si el enrutador de banda ancha tiene más de un codificador de vídeo de red conectado

Defina de forma diferente los campos relacionados con la dirección IP y el puerto de los codificadores de vídeo de red.

Categoría		Codificador de vídeo de red nº 1	Codificador de vídeo de red nº 2
Ajustes relacionados con IP	IP Address	192.168.1.100	192.168.1.101
	Subnet Mask	255.255.255.0	255.255.255.0
	Gateway	192.168.1.1	192.168.1.1
Ajustes relacionados con el puerto	HTTP Port	8080	8081
	VNP Port	4520	4521



- Si <HTTP Port> se define con un valor distinto a 80, debe facilitar el número de <Port> en la barra de direcciones del explorador de Internet antes de poder acceder al codificador de vídeo de red.
ej.) <http://Dirección IP : HTTP Port>
<http://192.168.1.100:8080>

Configuración automática de red

Ejecute <IP Installer_v2.XX.exe> para ver la lista de búsqueda de dispositivos de red.

En el arranque inicial, tanto **[Auto Set]** como **[Manual Set]** aparecerán atenuados.

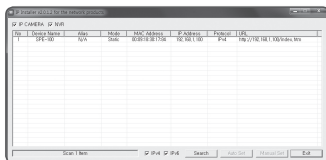


- En los dispositivos de red encontrados con el ajuste IPv6, estos botones aparecerán atenuados ya que los dispositivos de red no admiten esta función.

1. Seleccione un dispositivo de red en los resultados de la búsqueda.

Compruebe la dirección MAC del dispositivo que figura en la etiqueta del dispositivo de red.

Se activarán los botones **[Auto Set]** y **[Manual Set]**.

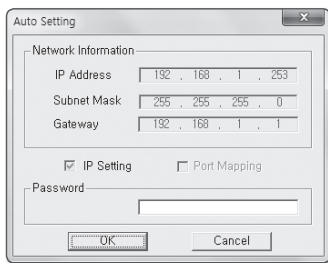


- Haga clic en **[Auto Set]**.
Aparece el diálogo Auto Setting.
Se definirán automáticamente **<IP Address>**, **<Subnet Mask>** y **<Gateway>**.

- Introduzca la contraseña.
Introduzca la contraseña de la cuenta **"admin"** que se haya utilizado para acceder al dispositivo de red.



- A efectos de seguridad, se recomienda utilizar una combinación de números, letras del alfabeto en mayúsculas y minúsculas, y caracteres especiales para su contraseña.
- Si desea cambiar la contraseña, consulte **"Cambiar contraseña de administrador"** de la configuración de usuario. (página 82)



- Haga clic en **[OK]**.
La configuración automática de la red queda completada.

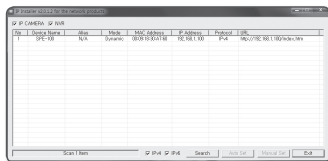
CONFIGURACIÓN DE IP DINÁMICA

Configuración del entorno de IP dinámica

- Ejemplo de entorno de IP dinámica
 - Si está conectado un enrutador de banda ancha con un dispositivo de red, se asigna una dirección IP mediante el servidor DHCP
 - El dispositivo de red está conectado directamente a un modem DHCP
 - Si las IP se asignan mediante el servidor DHCP interno a través de la LAN

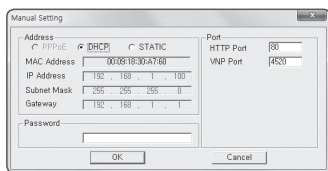
Comprobación de la IP dinámica

- Ejecute el instalador IP en el ordenador local del usuario. En la lista se muestran los dispositivos de red asignados con dirección de **<Dynamic IP>**.
- Seleccione un dispositivo de red del resultado de la búsqueda.



conexión y configuración de la red

- Haga clic en el botón **[Manual Set]** y compruebe la dirección de **<Dynamic IP>** del dispositivo de red.
Si elimina la marca de selección **<DHCP>**, puede cambiar IP a **<Static>**.

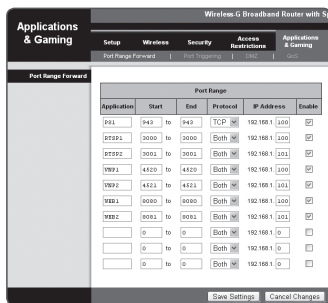


CONFIGURACIÓN DE REENVÍO DEL RANGO DE PUERTOS (ASIGNACIÓN DE PUERTOS)

Si ha instalado un enrutador de banda ancha con un codificador de vídeo de red conectado, debe definir el reenvío del rango de puertos en el enrutador de banda ancha de forma que un PC remoto pueda acceder al codificador de vídeo de red en él.

Reenvío manual del rango de puertos

- En el menú de configuración del Enrutador de banda ancha, seleccione **<Applications & Gaming>** - **<Port Range Forward>**.
Para definir el reenvío del rango de puertos para un Enrutador de banda ancha de terceros, consulte el manual del usuario de dicho Enrutador de banda ancha.
- Seleccione **<TCP>** y **<UDP Port>** por cada codificador de vídeo de red al enrutador de banda ancha.
El número de puerto del enrutador de banda ancha debe coincidir con el indicado en **<Setup>** - **<Network>** - **<Puerto>** del menú del visor web del codificador.
- Una vez hecho, haga clic en **[Save Settings]**.
Se guardarán los ajustes.



- El ejemplo de instrucciones anteriores se basan en el Enrutador de banda ancha de CISCO.
- Es posible que los ajustes difieran dependiendo del modelo de Enrutador de banda ancha conectado.
Para obtener información adicional, consulte el manual de usuario del enrutador aplicable.

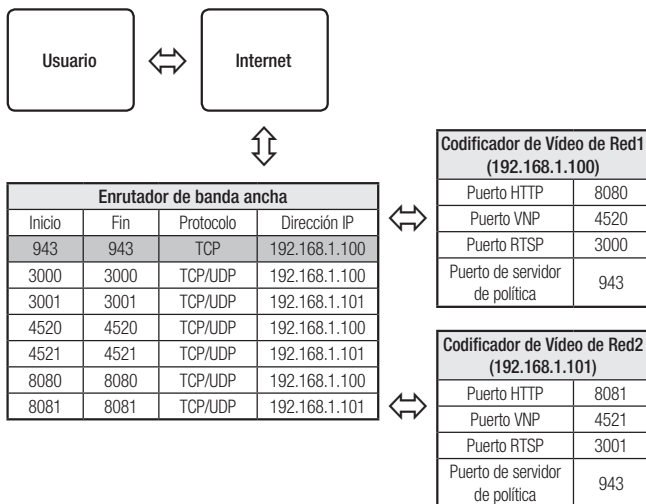
Configuración del reenvío del rango de puertos de varios codificadores de vídeo de red

Cuando varios codificadores de vídeo de red están conectados a un dispositivo enrutador de banda ancha, debe reenviar el puerto TCP 943 del enrutador al puerto TCP 943 de un codificador de vídeo de red conectado.

! Si no define correctamente el puerto TCP 943 del enrutador, no podrá obtener ninguna secuencia de vídeo en la página Web del codificador de vídeo de red.

- El puerto TCP 943 es un puerto para el servidor de política Silverlight de un codificador de vídeo de red.
- Puede definir una regla de reenvío de puertos en el dispositivo Enrutador de banda ancha a través de su página Web de configuración.
- No es posible cambiar el puerto del servidor de política Silverlight de un codificador de vídeo de red.
- Puede cambiar los puertos del codificador de vídeo de red a excepción del puerto del servidor de política a través de sus páginas Web de configuración.

Cuando el codificador de vídeo de red 1 y el codificador de vídeo de red 2 están conectados a un enrutador:

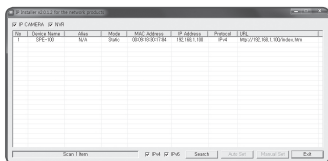


- !** El enrutamiento de puerto se puede hacer sin una configuración adicional del router si este está adaptado para la función UPnP (Universal Plug and Play). Después de conectar el codificador, configure <Conexión rápida> de <DDNS de Samsung> a <Act> en el menú "Setup → Network → DDNS".

conexión y configuración de la red

CONEXIÓN AL DISPOSITIVO DE RED DESDE UN PC LOCAL COMPARTIDO

1. Ejecute IP Installer.
Busca dispositivos de red conectados y los muestra en la lista.
2. Haga doble clic en el dispositivo de red al que va a conectar.
El explorador de Internet se inicia y conecta al dispositivo de red.



- También puede acceder al codificador de vídeo introduciendo en la barra de direcciones del explorador de Internet la dirección IP del dispositivo de red encontrado.

CONEXIÓN AL CODIFICADOR DE VÍDEO DE RED DESDE UN PC REMOTO A TRAVÉS DE INTERNET

Debido a que no se permite utilizar IP Installer en un ordenador remoto que no se encuentre en un grupo de red del enrutador de banda ancha, los usuarios pueden acceder a los codificadores de vídeo de red dentro de una red de enrutador de banda ancha utilizando el URL de DDNS del codificador de vídeo de red.

1. Antes de poder acceder a un codificador de vídeo de red en la red del enrutador de banda ancha, debe haber definido el reenvío del rango de puertos para el enrutador de banda ancha.
2. Desde el PC remoto, inicie el explorador de Internet e introduzca la dirección URL de DDNS del codificador de vídeo de red, o la dirección IP del enrutador de banda ancha en la barra de direcciones.
ej.) <http://www.samsungipolis.com/ID de producto>

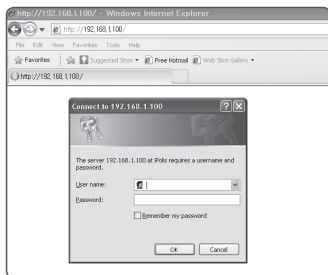


- Para registrar los ajustes de DDNS, consulte "Registro con DDNS". (página 61)

CONEXIÓN DEL CODIFICADOR DE VÍDEO DE RED

Procedimiento normal

1. Inicie el explorador de Internet.
2. Introduzca la dirección IP del codificador de vídeo de red en la barra de direcciones.
ej.) • Dirección IP (IPv4) : 192.168.1.100
→ http://192.168.1.100
- Debe aparecer el diálogo de inicio de sesión.
• Dirección IP (IPv6) : 2001:0230:abcd:ffff:0000:0000:ffff:1111
→ http://[2001:230:abcd:ffff::ffff:1111]
- Debe aparecer el diálogo de inicio de sesión.



Si el número de puerto HTTP no es 80

1. Inicie el explorador de Internet.
2. Introduzca la dirección IP y el número de puerto HTTP del codificador de vídeo de red en la barra de direcciones.
ej.) Dirección IP : 192.168.1.100:HTTP Port number(8080)
→ http://192.168.1.100:8080 - Debe aparecer el diálogo de inicio de sesión.

Utilización del URL

1. Inicie el explorador de Internet.
2. Introduzca el URL de DDNS del codificador de vídeo de red en la barra de direcciones.
ej.) Dirección URL : http://www.samsungipolis.com/ID de producto
- Debe aparecer el diálogo de inicio de sesión.



- La conexión de red está desactivada en el entorno LAN.

Para comprobar la dirección de DDNS

Si el codificador de vídeo de red está conectado directamente al módem de cable DHCP, al módem DSL o al módem PPPoE, la dirección IP de la red cambiará cada vez que intente conectar al servidor del proveedor de servicios de Internet.

Si este es el caso, no se le informará de la dirección IP modificada por el DDNS.

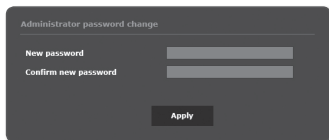
Una vez que registre el dispositivo con IP dinámica en el servidor DDNS, puede fácilmente cambiar la IP modificada cuando intente acceder al dispositivo.

Para registrar el dispositivo en el servidor de <DDNS>, entre en www.samsungipolis.com y registre primero el dispositivo y, a continuación, establezca <Network> - <DDNS> de Web Viewer en <DDNS de Samsung>, y facilite el <ID de producto> utilizado durante el registro de DDNS.

CONFIGURACIÓN DE CONTRASEÑA

Al acceder al producto por primera vez, debe registrar la contraseña de inicio de sesión.

Cuando aparezca la ventana **"Cambiar contraseña"**, introduzca la contraseña nueva.

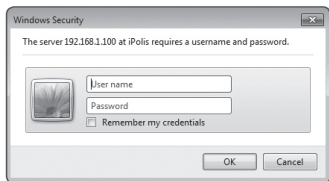


- La nueva contraseña debe tener de ocho a quince letras y una combinación de al menos dos de los siguientes: mayúsculas/minúsculas, números y caracteres especiales.
- Caracteres especiales que se permiten: ~!@#\$\$%^&*()_+=|{}[]?/
- No puede utilizar su ID como su contraseña. No se pueden repetir mismas letras más de dos veces y no se pueden utilizar los tres botones del teclado consecutivos.
- Si ha perdido su contraseña, puede pulsar el botón **[RESET]** para iniciar el producto. Así pues, no pierda la contraseña utilizando un bloc de notas o memorícela.

INICIO DE SESIÓN

Siempre que acceda al producto, aparecerá la ventana de inicio de sesión. Introduzca el ID de usuario y la contraseña para acceder al producto.

1. Introduzca **"admin"** en el cuadro de entrada **<User name>**.
La ID del administrador, **"admin"**, es fija y no es posible cambiarla.
2. Introduzca la contraseña en el campo de entrada **<Password>**.
3. Haga clic en **[OK]**.
Si ha iniciado sesión correctamente, verá la pantalla de Live Viewer.



- Si marca la opción **"Remember my credentials"** una vez realizada la entrada, la próxima vez se iniciará sesión automáticamente sin que se le pida introducir la información de inicio de sesión.
- Podrá disfrutar de la mejor calidad de vídeo si el tamaño de pantalla es del 100%. Si se reduce la relación existe el riesgo de cortar la imagen en los bordes.

INSTALACIÓN DE SILVERLIGHT RUNTIME

Si su PC no ha instalado Silverlight Runtime o ha instalado una versión antigua, se le redirigirá automáticamente a la página de instalación de Silverlight Runtime al acceder a Web Viewer.

Para instalar un sistema operativo Windows

1. Haga clic en **<Click Here>**.



2. Cuando aparezca el diálogo de descarga del archivo, haga clic en **<Run>**.



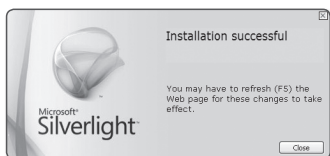
3. Una vez completada la descarga, haga clic en **<Run>**.



4. Aparecerá la página de instalación de Silverlight Runtime. **<Install now>** para continuar con la instalación.



- Una vez hecho, haga clic en **<Close>**.



Para instalar un sistema operativo MAC

- Ejecute el archivo con la extensión “.dmg”.



- Ejecute automáticamente el archivo del paquete de instalación creado con la extensión “.pkg”.



- Haga clic en **<Continue>**.



web viewer

4. Seleccione el idioma en la pantalla de selección de idioma y haga clic en **<Continue>**.



5. Haga clic en **<Agree>**.



6. Haga clic en **<Install>**.



7. Introduzca la contraseña de la cuenta con la que ha iniciado sesión y haga clic en **<Install Software>** y continuar.



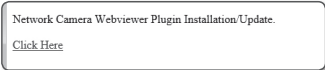
8. Una vez completado, haga clic en **<Close>**.



INSTALACIÓN DEL PLUGIN WebViewer

Si se conecta a un codificador por primera vez, se muestra el mensaje de instalación. A continuación, instale el plugin WebViewer para acceder al codificador y manipular el vídeo desde el mismo en tiempo real.

1. Cuando se accede por primera vez a la página de monitorización, se muestra la página de instalación. Haga clic [**Click Here**] en iniciar instalación.



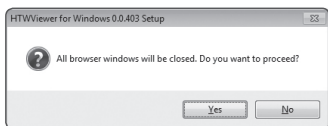
Network Camera Webviewer Plugin Installation/Update.
[Click Here](#)

- Si el estado de la descarga del archivo plug-in de instalación se suspende en el 99% en el navegador Internet Explorer, vuelva a intentarlo tras seleccionar "Release SmartScreen filter" en "Tool → SmartScreen filter".

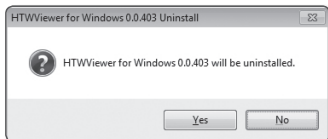
2. Haga clic [**Run**] en la ventana de mensaje.



3. Haga clic [**Yes**] cuando aparezca una ventana que notifica que se cerrarán todas las ventadas del navegador.



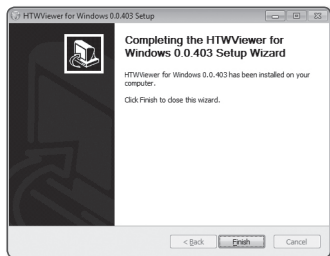
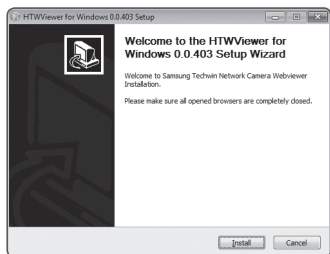
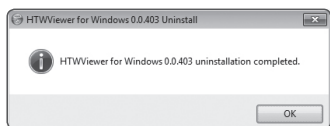
4. Cuando está instalada la antigua versión del Web Viewer Plug-in, se muestra una ventana de aviso que la versión antigua se borrará la pantalla. Haga clic [**Yes**] cuando la ventana de aviso aparece en la pantalla.



- Los pasos 4 y 5 se omitirán si el Plug-in Web Viewer está instalado.



5. Haga clic en **[OK]**.
La versión anterior del Plug-in Web Viewer se elimina.
6. Haga clic en **[Install]** para iniciar la instalación del Plug-in Web Viewer.
7. Haga clic en **[Finish]**.
La instalación del Plug-in Web Viewer se ha completado.



UTILIZACIÓN DE LA PANTALLA EN DIRECTO

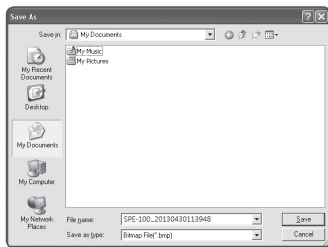


Elemento	Descripción
1 Vigilancia	Va a la pantalla de supervisión.
2 Reproducción	Cambia a la pantalla de control que reproduce los datos de grabación de la memoria SD.
3 Config.	Va a la pantalla de configuración.
4 Pantalla del visor	Muestra en pantalla el video en directo. ■ Puede utilizar la rueda del ratón para activar el zoom digital en la pantalla del visor.
5 Tipo de perfil	Puede seleccionar un tipo de perfil en <Perfil de vídeo> bajo el menú de configuración <Video & Audio>. ■ Cuando se conecte Web Viewer, aparece la información del perfil que se esté utilizando.
6 Optimización de la pantalla	El tamaño del video de la cámara se agrandará hasta adoptar el tamaño del explorador Web.
7 Fijar la resolución	Independientemente de la configuración de la resolución realizada en la cámara, establece la resolución en 640x480. Se pulsa de nuevo para cambiar a la resolución predeterminada.

Elemento	Descripción
8 Pantalla completa	Cambia el vídeo actual al tamaño máximo del monitor.
9 Captura	Guarda la instantánea como un archivo de imagen en formato .bmp o .jpg.
10 Control de audio / micrófono	Enable Audio and Microphone are control the Audio volume. ■ Sólo puede controlar el volumen del audio.
11 Salida de alarma	Activa el puerto de salida de la alarma.
12 PTZ externo	Conecte el PTZ externo al terminal RS-485 y coloque la dirección del lente de la cámara PTZ según las flechas direccionales. ■ Las operaciones de panorámica/inclinación sólo se activarán si la cámara está conectada a un receptor que admita panorámica/inclinación.
13 Ocultar el menú contextual	El menú contextual de la esquina izquierda desaparecerá y sólo queda el icono del menú.

Para capturar la instantánea

- Haga clic en **[Captura ()]** en la escena que va a capturar.
Debe aparecer el diálogo de captura.
 - Confirme la ruta de almacenamiento y haga clic en el botón **[Save]**.
La captura se guardará en la ruta especificada.
- Si se interrumpe un vídeo al capturar la imagen con IE8 en un PC con Windows 7, anule la selección **"Activar modo protegido"** en **"Herramientas – Opciones de Internet – Seguridad"**.
 - Si la pantalla no es capturada por el navegador IE en Windows 7 o 8, ejecute el navegador IE mediante el administrador.



Para ocupar la pantalla completa

1. Haga clic en el botón **[Pantalla completa ()]**.
2. Con esto el Visor ocupará toda la pantalla.
3. Para salir del modo de pantalla completa, pulse **[Esc]** en el teclado.



- En el explorador Internet Explorer y Google Chrome, puede cambiar a pantalla completa.

Uso del audio

1. Haga clic en el icono **[Audio ()]** para activar la comunicación de audio.
2. Utilice la barra **[]** para controlar el volumen.



- Si no hay sonido al enchufar y desenchufar la toma de audio mientras está en funcionamiento, haga clic en el icono **[Audio ()]** para volver a habilitarlo.

Uso del micrófono

Haga clic en el icono **[Micrófono ()]** para activar el micrófono.

Para controlar PTZ

1. Haga clic en la pestaña **[PTZ ()]**.
2. Cuando aparezca en pantalla el icono de PTZ, utilice los botones de dirección para ajustar el ángulo de la cámara, el factor de zoom o el enfoque a su gusto.



- Para obtener información adicional sobre el uso de PTZ, consulte **"Conf. Externo PTZ"**. (pagina 55)

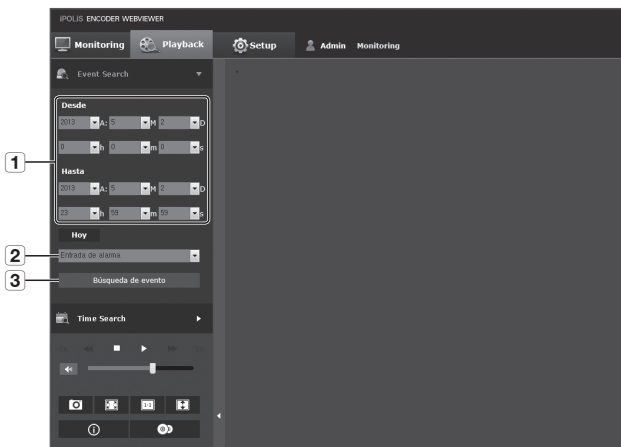


REPRODUCCIÓN DE VÍDEO



- Para poder ver el vídeo, debe configurar los ajustes de grabación. Para más detalles sobre la configuración de la grabación, consulte **"Almacenamiento"**. (página 69)

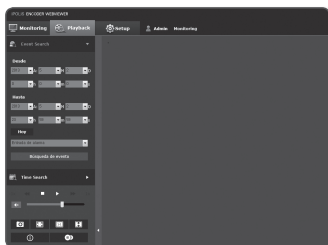
Nombre de pantalla de búsqueda de tema y su función



Elemento	Descripción
1 Ajuste del margen de búsqueda	Ajuste la fecha y hora de búsqueda de los datos guardados en la tarjeta de memoria SD.
2 Configuración de la búsqueda por evento	Configure el tipo de evento que quiere buscar en las fechas de búsqueda.
3 Búsqueda de evento	Realice la búsqueda de evento.

Se reproduce un contenido después de buscar por evento

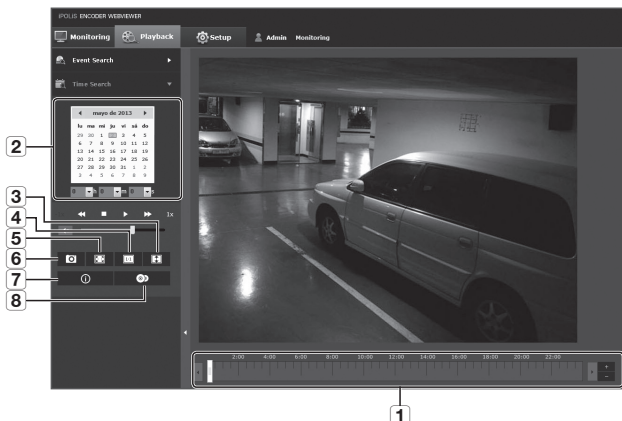
1. Haga clic en la pestaña [**Playback** ()].
2. Especifique la hora de inicio y la hora de fin de su búsqueda.
3. Seleccione un tipo de evento para buscar dentro del período especificado.
4. Haga clic en el botón [**Búsqueda de evento**].
Los resultados de búsqueda aparecerán en la lista.



-  ■ Si se han grabado más de 800 eventos en el período de búsqueda, la búsqueda se limitará a la fecha en la que se grabó el evento número 800.
Por ejemplo, si el período de búsqueda se encuentra entre el día 10 y 15 del mes y se registraron más de 800 eventos entre el 10 y el 11, la búsqueda se limitará hasta el día 11 con un total de 800 eventos, y no se buscarán los eventos posteriores (a partir del día 12).
5. Seleccione un elemento de la lista de búsqueda para reproducirlo.
 6. Haga clic en el botón [**Reproducir** ()].
 7. Para detener la reproducción del vídeo, haga clic en [**Parar** ()].
 8. Para volver a la pantalla de búsqueda, haga clic en [**Salir** ()].



Nombre de pantalla de búsqueda de hora y su función

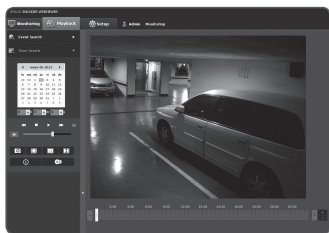


Elemento	Descripción
1 Barra de tiempo	La sección contenida en las fechas específicas se reproduce moviendo la barra de tiempo.
2 Configuración de la fecha de búsqueda	Ajuste la fecha de búsqueda a través del calendario. Las fechas para las que existe vídeo en la tarjeta de memoria SD se muestran en las casillas del calendario.
3 Optimización de pantalla	La imagen de la cámara se ajusta a la ventana del navegador Web.
4 Fijar la resolución	Independientemente de la configuración de la resolución realizada en la cámara, establece la resolución en 800x600. Se pulsa de nuevo para cambiar a la resolución predeterminada.
5 Pantalla completa	La imagen actual ocupa el tamaño máximo del monitor.
6 Captura	La imagen se guarda como archivo jpg o bmp.

Elemento	Descripción
7 Información del vídeo	En la pantalla se muestra la hora del vídeo reproducido.
8 Copia de seguridad	configura para realizar una copia de seguridad del vídeo guardado en la tarjeta de memoria SD. Se pueden configurar hasta 5 minutos.

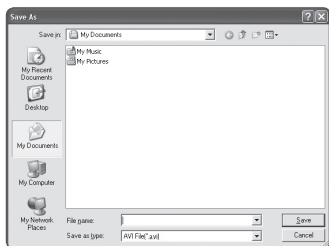
Para reproducir después de buscar por hora

- Haga clic en la pestaña [Time Search ()].
- Haga clic en la fecha que desee en el calendario.
Se reproducirá el vídeo de la fecha especificada.
- Si se detiene la reproducción del vídeo, seleccione la hora y haga clic en [Reproducir ()].
Se reproducirá el vídeo de la hora seleccionada.
- Mientras se esté reproduciendo el vídeo, se mostrará el tiempo de grabación del vídeo actual.
- Busque vídeo adelante o atrás y controle la velocidad de reproducción.
 - Para controlar la velocidad de reproducción
Si se selecciona , el botón cambiará a x1, x2, x4, x8, y la velocidad de reproducción aumentará en consecuencia.
Cuando se selecciona el botón  la velocidad de reproducción disminuye a -1x, -2x, -4x y -8x, y dicha velocidad disminuye gradualmente. Entonces, la velocidad de reproducción rápida vuelve a la velocidad normal y aumenta la velocidad de reproducción inversa.
 - Para controlar la dirección de reproducción
Si ve el botón  con la velocidad de reproducción mostrada, el vídeo se reproducirá hacia delante. Mientras tanto, si ve el botón  con la velocidad de reproducción mostrada, el vídeo se reproducirá hacia atrás.
- Mueva [Barra de tiempo ()] al punto temporal del vídeo deseado antes de reproducirlo.
La hora que contiene un archivo de grabación aparecerá resaltada en azul; la hora con la grabación de evento se resaltará en rojo.



Para hacer una copia de seguridad del vídeo buscado

1. Durante la reproducción, haga clic en [] en la escena de la va a guardar copia de seguridad.
Aparece la ventana de programación de la hora de inicio y fin de la copia de seguridad.
2. Haga clic en el botón [].
Aparecerá la ventana Guardar como.
3. Confirme la ruta de almacenamiento y haga clic en el botón **[Save]**.
Se hará una copia de seguridad de la captura en la ruta especificada.



Para reproducir vídeo de copia de seguridad

Estas imágenes se guardan en formato .avi. Se recomienda el uso del Gom Player, VLC Player y del Reproductor de Window Media como reproductores de medios compatibles con este formato.



- En el caso del Reproductor de Windows Media, descargue el programa más reciente de www.windows7codecs.com e instálelo antes de utilizar el reproductor.

Reproducción de un archivo AVI



- El archivo AVI no contiene datos de tiempo de grabación.

1. Separe la tarjeta de memoria SD del codificador.



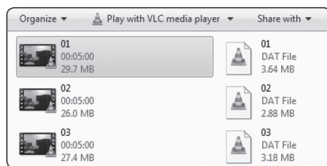
- Antes de separar la tarjeta de memoria SD, configure el <Dispositivo> a <Des> en el menú "Setup → Event → Almacenamiento".

2. Introduzca la tarjeta de memoria SD en el PC.

3. Reproduzca el archivo AVI en el directorio "`\\ch00\\img\\YYYY_MM_DD`" mediante el reproductor correspondiente.



- El nombre del archivo empieza por "01.avi" y el número del archivo va incrementándose en 1.
- Una vez dañados, los datos de la tarjeta de memoria SD no se pueden volver a reproducir en el reproductor de Web Viewer.



pantalla de configuración

- Perfil de E-mail / FTP : el perfil de vídeo que se va a transferir al e-mail o sitio FTP.
 - Sólo el códec de MJPEG se puede definir como Perfil de E-mail / FTP.
 - Perfil de grabación : éste es el perfil que se aplica a la grabación de vídeo.
 - Entrada de audio : sets whether to use audio for video recordings.
6. Según la situación, establezca el modo ATC (control automático de transmisión).

- Modo ATC : ajusta las propiedades de vídeo según la varianza en el ancho de banda de la red, controlando la velocidad de bits. El ajuste de la velocidad de bits depende del modo ATC.



- Controlar vel. fot. : reduce la velocidad de fotogramas si cae el ancho de banda de red.
- Controlar compresión : controla la velocidad de compresión si cae el ancho de banda de red.
El ajuste de compresión puede causar el deterioro de la calidad de la imagen.
- Si <Control de vel. bits> se define en <CBR>, la prioridad de codificación según el modo ATC se establecerá como se indica a continuación:

Control de vel. bits / Modo ATC	Controlar vel. fot.	Controlar compresión
CBR	Vel. fotograma	Compresión

- Sensibilidad ATC : afecta a la velocidad de transferencia según la varianza del ancho de bando de red.
La velocidad de transferencia se ajustará a la más alta si el ancho de banda es <Muy alta>, y se ajusta a la más baja si el ancho de banda es <Muy baja>.
- Limit ATC : si se ajusta la calidad o la velocidad de fotogramas, la propiedad cambiará al valor aplicado (%) frente el valor de ajuste anterior (100%).
Tenga en cuenta que si reduce demasiado el valor de propiedad, es posible que la pantalla parpadee. Por tanto, se recomienda ajustar el valor dentro del umbral.



- Se recomienda aplicar control ATC solo para los codificadores compatibles con ATC.
- Ajuste la sensibilidad de ATC en <Muy baja> en un entorno de red con alta varianza en el ancho de banda de red.
- Si la conexión de red es inestable, es posible que la pantalla parpadee.

7. Una vez hecho, haga clic en [Aplicar ()].

Para añadir / modificar el perfil de video

La configuración del perfil puede añadirse o modificarse para incluir diferentes perfiles según las condiciones de grabación.

1. Seleccione una opción en **<Perfil de vídeo>**.
2. Facilite el nombre y seleccione un códec.
3. Especifique las condiciones en las que se aplicará el códec.
4. Especifique los detalles del códec seleccionado incluida la resolución y la y la velocidad de fotogramas.
Haga clic en **<Avanzado>** para ver el menú contextual.
 - Resolución : Configure el tamaño de vídeo de los archivos MPEG-4, H.264 y MJPEG.
 - Vel. fotograma : especifica la velocidad de fotogramas.
 - Compresión : especifica la velocidad de compresión del vídeo.
 - Vel. bits máxima : especifica la velocidad de bits máxima del vídeo.



- Como la velocidad de bits se puede ajustar de forma limitada según la resolución, la velocidad de fotogramas y la complejidad de la pantalla la velocidad de bits real puede ser mayor que la velocidad de bits máxima. Por tanto, debe tener en cuenta las condiciones de uso al ajustar el valor.

- Control de vel. bits : Para la compresión, puede seleccionar entre velocidad de bits constante y velocidad de bits variable. La velocidad de bits constante (CBR) altera la calidad del vídeo y fija la velocidad de bits de transferencia en red, mientras que la velocidad de bits variable da prioridad a la calidad variando la velocidad de bits de la transferencia de red.



- Si el control de velocidad en bits se configura como velocidad en bits constante, la velocidad de fotograma de transmisión real puede ser inferior a la velocidad de fotograma fijada, ya que el primer modo de velocidad de fotograma cambia al primer modo de índice de compresión para garantizar la máxima calidad de imagen a una velocidad en bits que se ajusta según la complejidad del sistema.

- Velocidad de bits de destino : Especifique la velocidad de bits para la transferencia de vídeo.
- Prioridad de codificación : puede definir el método de transferencia de vídeo en Vel. fotograma o Compresión.
- Longitud de GOV : Indica la distancia (en terminus de número de marcos) entre dos I-Frames consecutivos en una secuencia de video cuando se ha seleccionado el codec H.264. (Un I-Frame + 0~varios P-Frames)
- Perfil : puede seleccionar el método de perfiles H.264.
- Codif. Entropía : reduce posibles pérdidas de compresión debido a la codificación.
- Multicast (SVNP) : especifica el uso del protocolo SVNP.
 - Dirección IP : introduzca una dirección IPv4 con la que puede conectar a la red IPv4.
 - Puerto : especifica el puerto de comunicaciones de vídeo.
 - TTL : permite definir TTL para el paquete SVNP.

pantalla de configuración

- Multicast (RTP) : permite especificar el uso del protocolo RTP.
 - Dirección IP : introduzca una dirección IPv4 con la que puede conectar a la red IPv4.
 - Puerto : especifica el puerto de comunicaciones de vídeo.
 - TTL : puede definir TTL para el paquete RTP.



- Si establece la dirección de multidifusión en 224.0.0.0~224.0.0.255, la multidifusión puede no funcionar correctamente en todos los entornos.
En ese caso, le recomendamos que cambie la dirección de multidifusión.

¿Cuál es la longitud de GOV?

GOV (Grupo de planos de objetos de vídeo) es un conjunto de cuadros de vídeo para compresión MPEG-4 y H.264 que indica un conjunto de cuadros desde el cuadro I inicial (cuadro de clave) al siguiente cuadro I.

GOV se compone de 2 tipos de fotogramas: I-Frame y P-Frame.

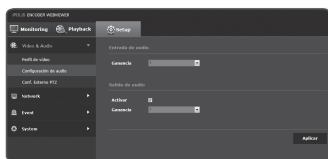
I-Frame es el fotograma básico para la compresión, también conocido como fotograma principal, que contiene los datos completos de la imagen. El P-Frame sólo contiene los datos que se han cambiado en relación con el I-Frame precedente.

Para códec MPEG-4 y H.264, puede determinar la longitud del GOV.

Configuración de audio

Puede configurar los parámetros de E/S de la fuente de audio desde el codificador.

1. En el menú de configuración, seleccione la ficha <Video & Audio (🔊)>.
2. Haga clic en <Configuración de audio>.
3. Establezca el valor de entrada de audio.
 - Ganancia: especifique el códec de audio.



- Puede producirse un deterioro del sonido o interferencias si el volumen de la fuente de sonido o el valor de aumento se han fijado en un valor excesivo.

4. Ajuste el nivel de salida del audio.
 - Activar: establece si utilizar o no la salida de audio.
 - Ganancia: especifique la amplificación de la entrada de audio.
5. Una vez hecho, haga clic en [Aplicar ()].

Conf. Externo PTZ

Configure el valor de conexión para que una cámara PTZ externa controle el sistema PTZ mediante la conexión RS-485 de la cámara.

1. En el menú de configuración, seleccione la ficha <Video & Audio ()>.

2. Haga clic en <Conf. Externo PTZ>.

3. Especifique el puerto serie.

Una vez conectada una cámara, puede configurar el modo de comunicación RS-485.

- Protocolo : Seleccione el mismo protocolo de su cámara entre:
SAMSUNG-T / SAMSUNG-E / PELCO-D / PELCO-P / SUNGJIN / PANASONIC / HONEYWELL / AD / VICON / GE / BOSCH.
- ID videocámara : muestra la identificación fija de la cámara.
- Vel. baudios : velocidad de transferencia de las comunicaciones RS-485.
- Datos : especifique los bits de datos.
- Paridad : especifique el bit de paridad.
- Bit parada : especifique el bit de parada.

4. Una vez hecho, haga clic en [Aplicar ()].

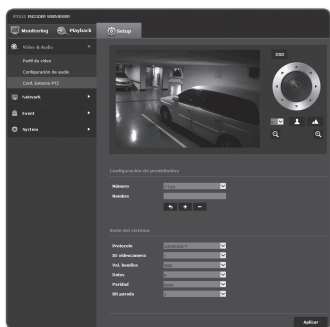


- Para hacer esto, debe asegurarse que la cámara y el dispositivo están bien conectados mediante los puertos de comunicaciones RS-485. Además, el puerto de serie de la cámara conectada debe funcionar correctamente.

5. Configure el menú de la cámara conectada.

Para más detalles, consulte el apartado “Configurar el menú de la cámara”.
(Página 57)

6. Haga clic en el botón <PTZ> en la esquina superior derecha y vaya al menú de configuración de PTZ.



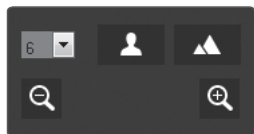
pantalla de configuración

7. Ajuste la dirección.

- **[Cambiar dirección a () / () / () / () / () / () / ()]** : La dirección de la cámara se ajusta.
- **[Control de velocidad de movimiento ()]** : Cuanto más alto sea el número, más rápida será la velocidad de movimiento.

8. Establezca el zoom y el enfoque.

- **[Acercar zoom ()]** : Aplica el zoom en pantalla.
- **[Alejar zoom ()]** : Aleja el zoom en pantalla.
- **[Ajustar enfoque ( / )]** : ajusta el enfoque en pantalla.
- **[Control de velocidad de zoom ()]** : Cuanto más alto sea el número, más rápida será la velocidad del zoom.



9. Ajuste la posición predefinida.



- Solo se puede controlar la panorámica/inclinación/zoom cuando los puertos de comunicación RS-485 de la cámara y el dispositivo están conectados y la <Config. serie> es normal.

Para añadir una posición predefinida

1. Seleccione el número de posición predefinida que va a añadir.
2. Defina el nombre de la posición predefinida.
3. Pulse el botón [].

Para suprimir una posición predefinida

1. Seleccione el número de posición predefinida que va a añadir.
2. Pulse el botón [].

Para mover la posición predefinida

1. Seleccione un número de predet. que desee mover.
2. Pulse el botón [].

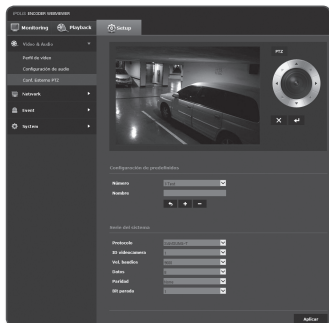
Configurar el menú de la cámara

Ejecute el visor web para recuperar el menú de configuración de la cámara y cambiar la configuración.

1. Haga clic en el botón **<OSD>** en la esquina superior derecha y vaya al menú de configuración de OSD.
2. Haga clic en el botón [▲ / ▼] para ir a la opción deseada.
3. Haga clic en el botón [✕] o el botón [⬅] para desplazarse por el menú o cancelar.



- El menú de la cámara puede ser diferente según el tipo de cámara que se haya conectado.

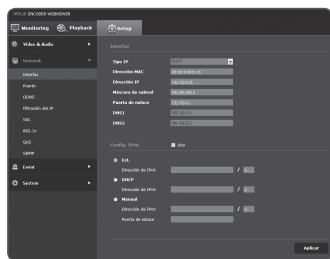


pantalla de configuración

CONFIGURACIÓN RED

Interfaz

1. En el menú de configuración, seleccione la ficha <Network (🌐)>.
2. Haga clic en <Interfaz>.
3. Defina <Interfaz> y <Config. IPv6> según sea necesario.
 - Tipo IP : selecciona un tipo de conexión IP.
 - Manual : especifica la dirección IP, la máscara de subred, la puerta de enlace, DNS1 y DNS2.
 - DHCP : especifica DNS1 y DNS2.
 - PPPoE : especifica DNS1, DNS2, ID y contraseña.
 - Si lo define en <Manual>, debe especificar manualmente la IP, máscara de subred, puerta de enlace, DNS 1 y 2.



- Dirección MAC : muestra la dirección MAC.
 - Dirección IP : muestra la dirección IP actual.
 - Máscara de subred : muestra la <Máscara de subred> para definir la IP.
 - Puerta de enlace : muestra la <Puerta de enlace> para definir la IP.
 - DNS1/DNS2 : muestra la dirección del servidor DNS (Servicio de nombres de dominios).
4. Establezca el <Config. IPv6>.
 - Defínalo en <Usa> para utilizar la dirección IPv6.
 - Est. : se utiliza la dirección IPv6 predeterminada.
 - DHCP : muestra y utiliza la dirección IPv6 obtenida desde el servidor DHCP.
 - Manual : introduzca manualmente una dirección IP y una puerta de enlace y utilícela.
 5. Una vez hecho, haga clic en [Aplicar (Aplicar)].



- El sistema de direcciones IP se definirá por defecto en DHCP. Si no se encuentra el servidor DHCP, se recuperarán automáticamente los ajustes anteriores.
- Una vez completada la edición, haga clic en [Aplicar (Aplicar)] para aplicar los cambios y se saldrá del explorador. Tras un instante, conecte de nuevo con la IP modificada.

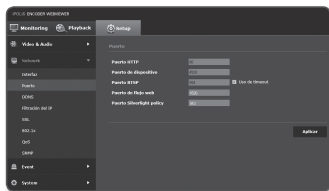
Puerto

1. En el menú de configuración, seleccione la ficha <Network ()>.

2. Haga clic en <Puerto>.

3. Introduzca cada elemento en el menú del puerto según sea necesario.

- No está disponible ni el rango de puertos entre 0 y 1023 ni el puerto 3702.
- Puerto HTTP : Puerto HTTP usado para acceder al codificador a través del visor web. El valor predeterminado es 80 (TCP).
 - La política de seguridad, no permite ajustar el puerto HTTP para los exploradores Safari y Google Chrome en 65535.
- Puerto de dispositivo : Define un puerto que se utilizará para transferir señales de video con protocolos Samsung.
- Puerto RTSP : Se utiliza para transferir vídeos en el modo RTSP; el valor predeterminado es 554.
- Puerto de flujo web : Se utiliza para transferir vídeos en Web Viewer; el valor predeterminado es 4520.
- Puerto Silverlight policy : Silverlight se utiliza para poder adquirir una conexión de red; el valor predeterminado es 943.



- Si se cambió el puerto HTTP, el explorador se cierra. Posteriormente, a dirección debe contener el puerto HTTP recién asignado con la IP. Ej.: Dirección IP: 192.168.1.100, Puerto HTTP: Asignado 8080 → http://192.168.1.100:8080 (Si el puerto HTTP se establece en 80, no hay necesidad de especificar el número de puerto.)
- El rango de puertos de Web Streaming se encuentra entre 4502 y 4534. Si el puerto del dispositivo se encuentra en este rango efectivo, el puerto de Web Streaming debe especificarse de igual forma que el puerto del dispositivo.
- No es posible cambiar el puerto del servidor de política Web Streaming/Silverlight de un codificador.

4. Una vez hecho, haga clic en [Aplicar ()].

pantalla de configuración

DDNS

DDNS es la abreviatura inglesa de Servicio Dinámico de Nombre de Dominio, que convierte la dirección IP de un codificador en un nombre de host general, de modo que el usuario puede recordarlo fácilmente.

1. En el menú de configuración, seleccione la ficha <Network ()>.

2. Haga clic en <DDNS>.

3. Seleccione el tipo de conexión <DDNS>.

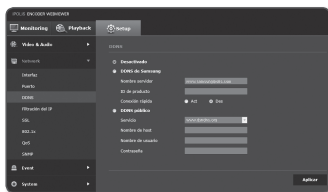
4. Introduzca las opciones de DDNS según el tipo seleccionado.

- DDNS de Samsung : se selecciona si utiliza el servidor de DDNS facilitado por Hanwha Techwin.
 - ID de producto : introduzca el ID de producto registrado con el servicio DDNS de Samsung.
 - Conexión rápida : establece el reenvío automático de puertos cuando se utiliza con un enrutador compatible con UPnP (Universal Plug and Play).
- DDNS público : seleccione uno de los servidores DDNS públicos que se facilitan cuando utilice un servidor DDNS público.
 - Servicio : permite seleccionar el servicio de DDNS público deseado.
 - Nombre de host : introduzca el nombre del host registrado en el servidor DDNS.
 - Nombre de usuario : introduzca el nombre de usuario del servicio DDNS.
 - Contraseña : introduzca la contraseña del servicio DDNS.

5. Una vez hecho, haga clic en [Aplicar ()].



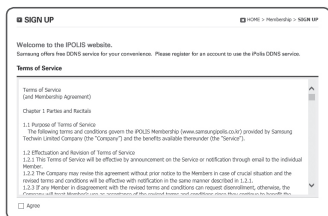
- Si se selecciona <Conexión rápida>, asegúrese de seleccionar el servicio DDNS de Samsung.



Registro con DDNS

Para registrar el producto con DDNS de Samsung

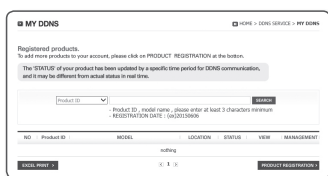
1. Visite el sitio Web de iPOLiS (www.samsungipolis.com) y regístrese con una cuenta creada.



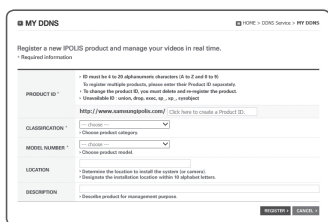
2. En la barra de menú superior, seleccione **<DDNS SERVICE>**-**<MY DDNS>**.



3. Haga clic en **[PRODUCT REGISTRATION]**.
4. Introduzca el ID del producto.
 - Debe realizar una comprobación doble del ID introducido.



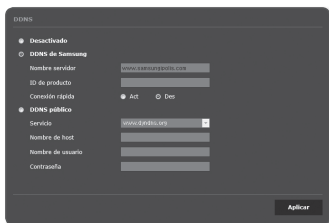
5. Seleccione una **<CLASSIFICATION>** y especifique el **<MODEL NUMBER>**.
6. Especifique la ubicación del producto con una descripción en caso necesario.
7. Haga clic en **[REGISTRATION]**. El producto se añadirá a la lista de productos que puede comprobar.



pantalla de configuración

Para conectarse al DDNS de Samsung en configuración de codificador

1. En la página de configuración de DDNS, defina <DDNS> en <DDNS de Samsung>.
2. Facilite el <ID de producto> especificado al registrar el ID del producto en el sitio DDNS.
3. Haga clic en [Aplicar ()]. Una vez que se establezca correctamente la conexión, aparecerá en pantalla el mensaje <(Correcto)>.



Configuración de DDNS públicos en configuración de codificador

1. Abra la página de ajustes de DDNS y seleccione <DDNS público> para <DDNS>.
2. Introduzca el nombre de host del sitio, nombre de usuario y contraseña.
3. Haga clic en el botón [Aplicar ()]. Si la conexión se establece correctamente, aparece <(Correcto)>.
4. Una vez hecho, haga clic en [Aplicar ()].

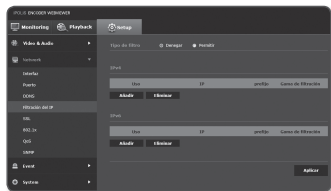


- Para utilizar debidamente el servicio DDNS, es necesario configurar tanto DDNS como el reenvío de puertos del enrutador. Para la configuración del reenvío de puertos, consulte "Configuración de reenvío del rango de puertos (Asignación de puertos)". (página 30)

Filtración del IP

Puede crear una lista de IPs a las que desee otorgar o denegar acceso.

1. En el menú de configuración, seleccione la ficha **<Network ()>**.
 2. Haga clic en **<Filtración del IP>**.
 3. Seleccione **<Tipo de filtro>**.
 - Denegar : si se selecciona, se restringirá el acceso desde las IPs añadidas.
 - Permitir : si se selecciona, se permitirá el acceso sólo desde las IPs añadidas.
 4. Haga clic en el botón **[Añadir (Añadir)]**.
Se creará la lista de IP.
 5. Facilite la IP a la que desee otorgar o denegar el acceso.
Cuando introduzca una dirección IP y un prefijo, la lista de direcciones IP disponibles aparecerá en la columna de rango del filtro del lado derecho.
- Si se selecciona **<Permitir>** para Filtrado IP y **<Config. IPv6>** de **<Interfaz>** se establece en **<Uso>**, deben asignarse las direcciones IPv4 e IPv6 del ordenador que se esté configurando.
- La dirección IP del equipo utilizado para realizar la configuración actual no se puede añadir a **<Denegar>**, debe añadirse a **<Permitir>**.
- Sólo aparecerán las direcciones IP que estén definidas en **<Uso>** en la columna del filtro.
6. Seleccione una IP para borrarla de la lista.
Haga clic en el botón **[Borrar (Eliminar)]**.
 7. Una vez hecho, haga clic en **[Aplicar (Aplicar)]**.



pantalla de configuración

SSL

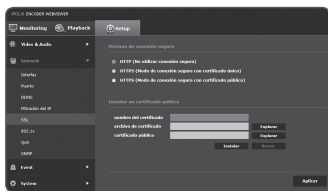
Puede seleccionar un sistema de conexión seguro o instalar el certificado público para este fin.

1. En el menú de configuración, seleccione la ficha **<Network ( >**.
2. Haga clic en **<SSL>**.
3. Seleccione un sistema de conexión seguro.

- Para acceder al codificador mediante el modo HTTPS, debe escribir la dirección IP del codificador en la forma "https://<Codificador_ IP>".

Si no puede configurar los ajustes de Web viewer en el modo HTTPS con Internet Explorer, edite las opciones de Internet como se indica a continuación: <Menú → Herramientas → Opciones de Internet → Avanzado → Seguridad → Quite la marca de TLS 1.0 y marque TLS 1.1, TLS 1.2>

4. Busque el certificado público que desea instalar en el codificador. Para instalar el certificado en el codificador, es necesario proporcionar un nombre de certificado (que puede asignar arbitrariamente el usuario), un archivo de certificado emitido por la autoridad de certificación y un archivo clave.
 - La opción **<HTTPS (Modo de conexión segura con certificado público)>** sólo se activará si se ha instalado un certificado público.
5. Una vez hecho, haga clic en **[Aplicar ()]**.



Instalación del certificado

1. Introduzca el nombre del certificado.
2. Seleccione el archivo del certificado y su clave, y haga clic en el botón **[Instalar ()]**.

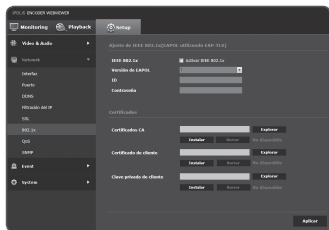
Eliminación del certificado

1. Haga clic en el botón **[Borrar ()]**.
2. Para borrar un certificado público, debe acceder al descodificador de vídeo de red en el modo de **<HTTP (No utilizar conexión segura)>** o **<HTTPS (Modo de conexión segura con certificado único)>**.

802.1x

Al conectar a red, puede elegir si utilizar el protocolo 802.1x e instalar el certificado.

1. En el menú de configuración, seleccione la ficha **<Network ()>**.
2. Haga clic en **<802.1x>**.
3. Defina **<Ajuste de IEEE 802.1x (EAPOL utilizando EAP-TLS)>**.
 - IEEE 802.1x : especifica el uso del protocolo 802.1x.
 - Versión de EAPOL : seleccione la versión 1 o 2.
 - ID : introduzca el ID del certificado del cliente.
 - Contraseña : introduzca la contraseña de la clave privada del cliente. Si el archivo de clave utilizado no está cifrado, no tiene que introducirlo.



- ! Si el dispositivo de red conectado no admite el protocolo 802.1x, el protocolo no funcionará debidamente aunque lo defina.
4. Instale/elimine el certificado.
 - Certificados CA : seleccione un certificado público que contenga la clave pública.
 - Certificado de cliente : seleccione un certificado público que contenga la clave de certificado de cliente.
 - Clave privada de cliente : seleccione un certificado público que contenga la clave privada de cliente.
 5. Una vez hecho, haga clic en **[Aplicar (Aplicar)]**.

Para instalar/eliminar los certificados relacionados con 802.1x

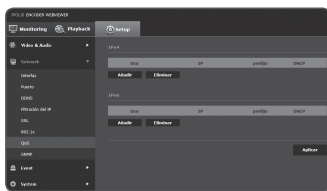
1. Pulse el botón **[Explorar (Explorar)]** en cada elemento y seleccione un certificado para instalarlo.
2. Si no hay instalado ningún certificado, aparecerá "No disponible" al lado del elemento seleccionado.
3. Pulse el botón **[Instalar (Instalar)]** para empezar la instalación con un mensaje que indica "Instalado" al lado del elemento.
4. Pulse el botón **[Borrar (Borrar)]** para eliminar el certificado.

pantalla de configuración

QoS

Puede especificar la prioridad para asegurar la velocidad de transferencia estándar para un IP específico.

1. En el menú de configuración, seleccione la ficha <Network ()>.
2. Haga clic en <QoS>.
3. Haga clic en el botón [Añadir ()].
Se creará la lista de IP.
4. Introduzca una dirección IP a la que vaya a aplicar QoS.

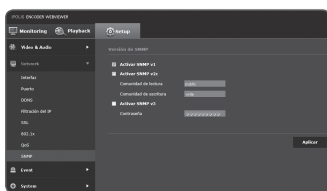


- El prefijo predeterminado para IPv4 es 32.
Para DSCP, el valor predeterminado se define en 63.
 - Sólo pueden priorizarse las direcciones IP definidas en <Uso>.
5. Seleccione una IP para borrarla de la lista.
Haga clic en el botón [Borrar ()].
 6. Una vez hecho, haga clic en [Aplicar ()].

SNMP

Con los protocolos SNMP, el administrador del sistema o de red puede controlar los dispositivos de red en un sitio remoto y configurar los ajustes del entorno.

1. En el menú de configuración, seleccione la ficha <Network ()>.
2. Haga clic en <SNMP>.
3. Especifique la <SNMP>.
 - Activar SNMP v1 : se activará la versión 1 de SNMP.
 - Activar SNMP v2c : se activará la versión 2 de SNMP.
 - Comunidad de lectura : facilite el nombre de la comunidad de lectura en la que puede acceder a la información de SNMP. El valor predeterminado es <public>.
 - Comunidad de escritura : facilite el nombre de la comunidad de escritura en la que puede acceder a la información de SNMP. El valor predeterminado es <write>.



- Activar SNMP v3 : se activará la versión 3 de SNMP.
 - Contraseña : especifique la contraseña predeterminada para la versión 3 de SNMP.
 - La contraseña predeterminada puede estar expuesta a riesgos de piratería, por lo que recomendamos que cambie la contraseña después de instalar el producto. Tenga en cuenta que otros problemas que sucedan por no cambiar la contraseña será responsabilidad del usuario.
 - La contraseña debe tener entre 8 y 16 caracteres de longitud.

4. Una vez hecho, haga clic en **[Aplicar ()]**.



- SNMP v3 sólo puede definirse cuando el modo de conexión seguro sea HTTPS. Consulte “SSL”. (página 64)

pantalla de configuración

CONFIGURACIÓN DE EVENTOS

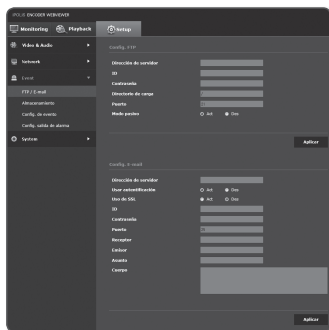
FTP / E-mail

Puede configurar los ajustes del servidor de FTP/Email de forma que pueda transferir las imágenes tomadas en la cámara al PC si se produce un evento.

1. En el menú de configuración, seleccione la ficha <Event ()>.
2. Haga clic en <FTP / E-mail>.
3. Seleccione <Config. FTP> o <Config. E-mail> e introduzca / seleccione el valor que desee.

- Config. FTP

- Dirección de servidor : introduzca la dirección IP del servidor de FTP a la que transferir las imágenes de la alarma o del evento.
- ID : introduzca el ID de usuario con el que desea iniciar sesión en el servidor de FTP.
- Contraseña : introduzca la contraseña de cuenta de usuario para iniciar sesión en el servidor de FTP.
- Directorio de carga : especifique la ruta de FTP a la que va a transferir las imágenes de la alarma o del evento.
- Puerto : el puerto predeterminado del servidor de FTP es 21; no obstante, puede utilizar un número de puerto diferente según los ajustes del servidor de FTP.
- Modo pasivo : seleccione <Act> si tiene que conectar en modo pasivo debido al cortafuegos o a los ajustes del servidor de FTP.



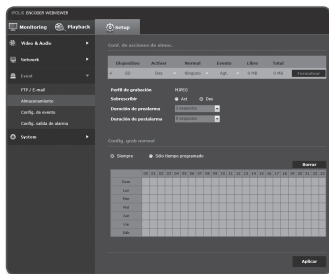
- Config. E-mail
 - Dirección de servidor : introduzca la dirección IP del servidor de correo electrónico a la que transferir las imágenes de la alarma o del evento.
 - Usar autenticación : permite seleccionar si utilizar autorización.
 - Uso de SSL : especifica el uso de SSL.
 - ID : introduzca el ID de usuario para iniciar sesión en el servidor de email.
 - Contraseña : introduzca la contraseña de cuenta de usuario para iniciar sesión en el servidor de email.
 - Puerto : el puerto predeterminado del servidor de email es 25; no obstante, puede utilizar un número de puerto diferente según los ajustes del servidor de email.
 - Receptor : introduzca la dirección del receptor de email.
 - Emisor : introduzca la dirección del emisor del mensaje de correo electrónico. Si la dirección del emisor es incorrecta, es posible que el mensaje de correo del emisor lo clasifique como correo basura el servidor de email y no se envíe.
 - Asunto : introduzca el asunto del email.
 - Cuerpo : facilite el texto del mensaje. Adjunte las imágenes de la alarma o del evento al mensaje de correo electrónico que está preparando.

4. Una vez hecho, haga clic en **[Aplicar ()]**.

Almacenamiento

Puede ajustar las condiciones de grabación o el uso de grabación para la memoria SD, comprobar el tamaño de los datos almacenados o formatear la memoria SD propiamente dicha.

1. En el menú de configuración, seleccione la ficha **<Event ()>**.
2. Haga clic en **<Almacenamiento>**.



pantalla de configuración

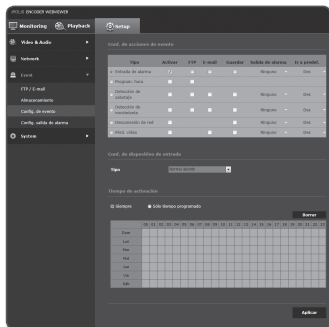
Para realizar la grabación en la memoria SD

1. Compruebe el tamaño **<Libre>** y **<Total>** de la tarjeta de memoria.
2. Si no hay espacio libre suficiente, establezca el dispositivo en **<Act>**.
De lo contrario, compruebe los datos almacenados y, si cree que no son importantes, haga clic en **<Formatear>** para formatear la memoria SD.
 - Pueden saltarse algunos cuadros si la tarjeta de memoria SD funciona a una velocidad inferior a la recomendada..
Para más detalles, consulte "**Características Recomendadas del Tarjeta de Memoria SD/SDHC**". (página 10)
 - En una tarjeta de memoria SD de gran capacidad, el formateo será lento.
 - El tráfico de datos aumenta cuando el codificador se configura a mayor resolución, una mayor velocidad de bits y/o mayor velocidad de cuadros.
Si hay mucho tráfico de datos, algunos fotogramas pueden omitirse aunque esté almacenado como un fotograma completo.
3. Especifique la acción de almacenamiento.
 - Perfil de grabación : muestra el tipo de códec del perfil de grabación.
 - Sobrescribir : si la memoria SD está llena, eliminará los datos antiguos y almacenará los datos nuevos que se introducen.
 - Duración de prealarma : especifique el punto en el tiempo antes de que se produzca la alarma; las imágenes se transferirán a partir de dicho momento. puede especificar hasta 5 segundos antes de que se produzca la alarma.
 - Duración de postalarma : especifique el punto en el tiempo después de que se produzca la alarma; las imágenes se transferirán hasta dicho momento. Puede especificar hasta 120 segundos después de que se produzca la alarma.
 - Normal: realiza una grabación a una velocidad de fotogramas concreta.
 - Evento: define el tipo de grabación para un evento concreto que suceda.
4. Especifique el **<Config. grab normal>**.
 - Siempre : guarde siempre el vídeo grabado en la tarjeta de memoria SD.
 - Si se define en Siempre, no es posible cambiar la hora de activación.
 - Sólo tiempo programado : sólo graba durante el tiempo y el día de la semana especificados.
 - [Borrar (**Borrar**)] : reinicia todos los ajustes.
5. Una vez hecho, haga clic en **[Aplicar (**Aplicar**)]**.

Entrada de alarma

Puede definir el tipo de entrada de alarma, a hora de activación y el modo de funcionamiento.

1. En el menú de configuración, seleccione la ficha **<Event (🔔)>**.
2. Haga clic en **<Config. de evento>**.
3. Seleccione **<Entrada de alarma>** en **<Conf. de acciones de evento>**.
4. Defina o no **<Activar>**.
5. Especifique un dispositivo de entrada.
 - **Tiop**
 - Normal abierto : está normalmente abierta, pero si está cerrada, se activa una alarma.
 - Normal cerrado : está normalmente cerrada, pero si está abierta, se activa una alarma.
6. Especifique el **<Tiempo de activación>**.
 - Siempre : compruebe siempre se produce una alarma. Se activa en modo de funcionamiento cuando se produce una alarma.
 - Si se define en **<Siempre>**, no es posible cambiar la hora de activación.
 - Sólo tiempo programado : comprueba si se produce una alarma en el día de la semana especificado durante un período de tiempo especificado. Se activa en modo de funcionamiento cuando se produce una alarma.
 - [Borrar (🗑️)] : reinicia todos los ajustes.
7. Especifique una operación que se realice si se produce una alarma.
 - FTP : especifique el uso de la transferencia en FTP en la configuración de entrada de la alarma..
 - E-mail : especifique el uso de la transferencia en email en la configuración de entrada de la alarma.
 - Guardar : especifique el uso de la grabación en la configuración de entrada de la alarma.
 - Salida de alarma : seleccione si definir la salida de alarma si se produce la entrada de una alarma, y especifique el tiempo de salida de alarma.
 - Ir a predef. : va a la posición predefinida especificada al definir la entrada de alarma.
 - Sólo si se instala el receptor de panorámica/inclinación de cámara, estará disponible Ir a predef.
8. Una vez hecho, haga clic en **[Aplicar (📌)]**.

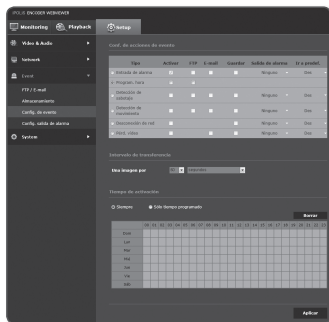


pantalla de configuración

Programación de hora

Puede definir guardar los datos de vídeo en un intervalo concreto según se haya programado independientemente de que se produzca realmente un evento.

1. En el menú de configuración, seleccione la ficha **<Event (📅)>**.
2. Haga clic en **<Config. de evento>**.
3. Seleccione **<Program. hora>** en **<Conf. de acciones de evento>**.
4. Defina o no **<Activar>**.
5. Especifique el **<Intervalo de transferencia>**.
6. Especifique el tiempo de activación y la condición de activación.
 - Para más información sobre **<Tiempo de activación>** y **<Acción>**, consulte "Entrada de alarma". (página 71)

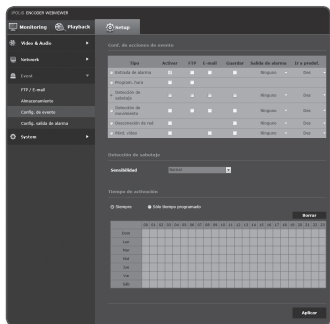


- El valor configurado del intervalo de transferencia debe ser inferior al intervalo de activación predeterminado para una buena transmisión de imágenes.
7. Una vez hecho, haga clic en **[Aplicar (📌)]**.

Detección de sabotaje

Puede establecer que se detecten los intentos de sabotaje y activar eventos, como el cambio repentino de la dirección de encuadre de la cámara, el bloqueo del objetivo y otros cambios de escena generales del vídeo.

1. En el menú de configuración, seleccione la ficha **<Event (🔔)>**.
2. Haga clic en **<Config. de evento>**.
3. Seleccione **<Detección de sabotaje>** en **<Conf. de acciones de evento>**.
4. Defina o no **<Activar>**.
5. Establezca la sensibilidad de detección de sabotaje.
Cuanto más alta sea la sensibilidad, con mayor facilidad se detectará el mínimo intento de sabotaje.
6. Especifique el tiempo de activación y la condición de activación.
 - Para más información sobre **<Tiempo de activación>** y **<Acción>**, consulte "Entrada de alarma". (página 71)
7. Una vez hecho, haga clic en **[Aplicar (🔍)]**.



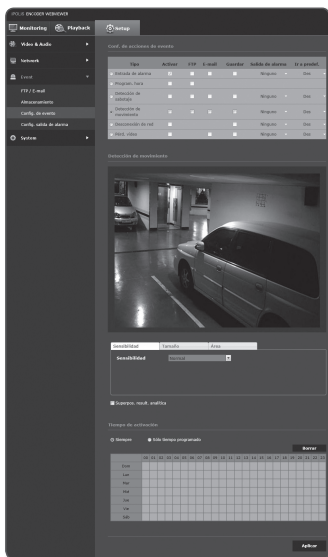
- Es posible que la función predeterminada de detección de sabotaje no funcione correctamente en los siguientes casos.
 - En circunstancias con fondo simple o de baja iluminación y durante la noche, es posible que descienda la sensibilidad de detección.
 - Una sacudida severa de la cámara o un cambio drástico en la iluminación puede considerarse por error una acción de sabotaje.
 - La detección del sabotaje puede tardar (máximo 5 segundos) justo después de realizar el sabotaje.
 - Una vez que se detecta el sabotaje, la cámara reanudará su funcionamiento normal tras cierto tiempo de estabilidad (aprox. 5 segundos) durante los cuales no se realizará ninguna detección.

pantalla de configuración

Detección de movimiento

Los temas de detección de movimiento se pueden configurar para activar la salida de señal de acontecimiento.

1. En el menú de configuración, seleccione la ficha <Event ()>.
2. Haga clic en <Config. de evento>.
3. Seleccione <Detección de movimiento> en <Conf. de acciones de evento>.
4. Defina o no <Activar>.
5. Establezca <Sensibilidad>, <Tamaño> y <Área>.
6. Establezca si utilizar <Superpos. result. analítica>.
Cuando se detecta movimiento, su tamaño y posición se marca con un rectángulo en pantalla.
 - Verde: Todos los objetivos se detectan como que están en movimiento.
7. Especifique el tiempo de activación y la condición de activación.
 - Para más información sobre <Tiempo de activación> y <Acción>, consulte "Entrada de alarma". (página 71)
8. Una vez hecho, haga clic en [Aplicar ()].





- Antes de utilizarse, establezca los tamaños de movimiento mínimo y máximo para que se adapten al rango de movimiento deseado que se va a detectar.
- El tamaño detectado de un objeto puede diferir del tamaño real según sea su forma.
- Se pueden ver hasta 16 objetos desde el lado superior de la pantalla.
- En los casos siguientes, la función de detección de movimientos puede verse afectada o realizar una detección incorrecta.
 - El color o el brillo del objeto es similar al fondo.
 - Pequeñas actividades alrededor del área del borde del campo de visión de la cámara.
 - Continúan sucediendo de forma aleatoria varios movimientos debido al cambio de escena, a cambios rápidos de iluminación o a otras razones.
 - Un objeto fijo continúa moviéndose en la misma posición.
 - Movimientos con un cambio de posición menor como la aproximación a la cámara o la desaparición de la misma.
 - Un objeto en movimiento que se acerca demasiado a la cámara.
 - Un objeto se oculta tras otros objetos.
 - Dos o más objetos se superponen o un objeto se divide en varias partes.
 - Un objeto demasiado rápido (para la detección correcta, un objeto debe encontrarse solapado en fotogramas contiguos).
 - Reflejos / objetos borrosos / sombras debido a la luz potente como la luz directa del sol, la iluminación o faros.
 - Con fuertes tormentas de nieve, lluvia, viento o al amanecer / anochecer.

pantalla de configuración

Para utilizar la detección de movimiento

Detecta un movimiento que cumple todas las condiciones especificadas en sensibilidad, tamaño y área.

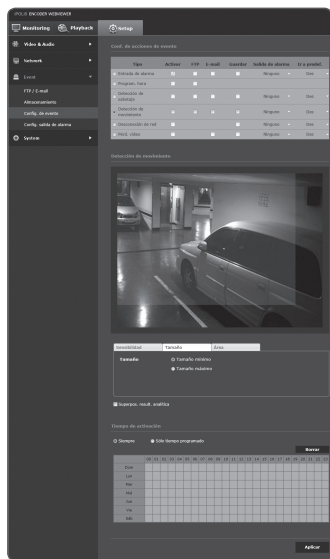
1. Seleccione un modo de detección de movimiento.
2. Seleccione la ficha <Sensibilidad> para establecer el nivel de sensibilidad. Puede establecer la sensibilidad del sensor para detectar movimiento en el fondo del vídeo de la vigilancia.

■ En una situación en la que se distingan objetos en el fondo, establezca esta opción en un nivel de sensibilidad bajo. En el caso opuesto en el que resulte difícil distinguir objetos como en una situación de baja iluminación, establezca esta opción en un nivel alto.

3. Seleccione la ficha <Tamaño>. Puede limitar el tamaño mínimo/máximo de movimiento que se va a detectar.

- Tamaño mínimo: Para establecer el tamaño mínimo de movimientos detectados, seleccione <Tamaño mínimo> y, a continuación, apunte y arrastre en la pantalla hasta el tamaño deseado utilizando el ratón.
- Tamaño máximo: Para establecer el tamaño máximo de movimientos detectados, seleccione <Tamaño máximo> y, a continuación, apunte y arrastre al tamaño deseado en la pantalla utilizando el ratón.

■ Los movimientos con un tamaño menor al mínimo especificado o mayor al máximo no se detectan. Para evitar detecciones accidentales causadas por ruidos grandes o pequeños, establezca los tamaños de movimiento máximo y mínimo aproximadamente según el entorno. Observe que los mismos movimientos en la misma ubicación pueden seleccionarse diferentemente en su tamaño de detección; se recomienda tener en cuenta e incluir la diferencia tolerable al ajustar los tamaños de detección mínimo y máximo.

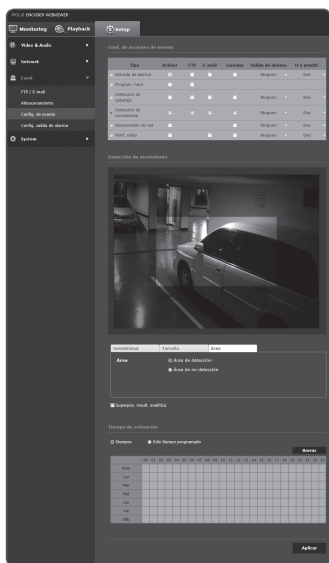


4. Seleccione la ficha <Área>.

Puede especificar en pantalla un área que incluya o excluya el área en la detección.

Puede especificar hasta 4 áreas.

- Área de detección: Establece la pantalla completa como excluida de la detección y añade un área especificada como área de detección de movimiento. Seleccione 4 vértices de la imagen con el ratón para especificar el área de detección.
 - Área de no detección: Establece toda la pantalla completa como área de detección de movimiento y excluye el área especificada para que no se detecte nada. Seleccione 4 vértices de la imagen con el ratón para especificar el área de no-detección.
5. Para eliminar un área, haga clic con el botón secundario en la pantalla para abrir el menú contextual y seleccione Borrar y [Aceptar].
6. Una vez hecho, haga clic en [Aplicar (Aplicar)].

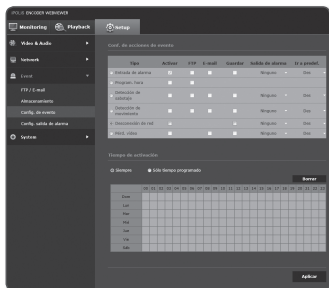


pantalla de configuración

Desconexión de red

Puede recibir y guardar eventos de una red físicamente desconectada.

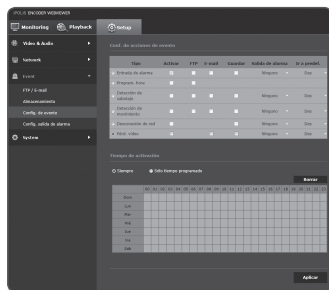
1. En el menú de configuración, seleccione la ficha **<Event (🔔)>**.
2. Haga clic en **<Config. de evento>**.
3. Seleccione **<Desconexión de red>** en **<Conf. de acciones de evento>**.
4. Defina o no **<Activar>**.
5. Especifique el tiempo de activación y la condición de activación.
 - Para más información sobre **<Tiempo de activación>** y **<Acción>**, consulte "Entrada de alarma". (página 71)
6. Una vez hecho, haga clic en **[Aplicar (🔍)]**.



Pérd. vídeo

Puede definir la alarma que se va a generar si se produce la desconexión de una cámara y que produzca una pérdida de vídeo.

1. En el menú de configuración, seleccione la ficha **<Event (🔔)>**.
2. Haga clic en **<Config. de evento>**.
3. Seleccione **<Pérd. vídeo>** en **<Conf. de acciones de evento>**.
4. Defina o no **<Activar>**.
5. Especifique el tiempo de activación y la condición de activación.
 - Para más información sobre **<Tiempo de activación>** y **<Acción>**, consulte "Entrada de alarma". (página 71)
6. Una vez hecho, haga clic en **[Aplicar (🔍)]**.

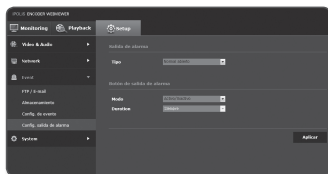


Configuración de salida de alarma

1. En el menú de configuración, seleccione la ficha <Event ()>.

2. Haga clic en <Botón de salida de alarma>.

3. Configure el tipo de salida de alarma del codificador.



- Si cambia el tipo de salida de alarma, el botón de salida de alarma en la página de vigilancia y el tipo de salida de alarma mostrado en la página Config. de evento cambiará en consecuencia.

- Tipo

- Normal abierto: considera el estado “Circuito abierto” del sensor o el dispositivo de entrada de alarma como normal, y activa la alarma en caso de que el estado cambie a “Circuito cerrado”.
- Normal Cerrado: considera el estado “Circuito cerrado” del sensor o el dispositivo de entrada de alarma como normal, y activa la alarma en caso de que el estado cambie a “Circuito abierto”.

4. Establezca el botón de salida de alarma.

Esta configuración es para el botón de salida de alarma en la página de monitorización.

- Modo: establece el método de salida de alarma.

- Hay una diferencia entre las operaciones al hacer clic en el botón de salida de alarma mientras está desactivado.

- Pulso: se activa durante el periodo de tiempo especificado por la duración (intervalo de conmutación) y se desactiva de forma automática.
- Activo/Inactivo: se mantiene activado hasta que el usuario hace clic de nuevo en el botón para desactivarlo.

- Duration: establece la duración que se mantiene activada la alarma si el modo es establece en pulso, de 1 a 15 segundos.

5. Una vez hecho, haga clic en [Aplicar ()].

CONFIGURACIÓN DEL SISTEMA

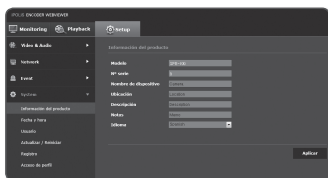
Información del producto

1. En el menú de configuración, seleccione la ficha <System ()>.
2. Haga clic en <Información del producto>.
3. Compruebe la información del codificador o proporcione detalles según su entorno de red.
 - Modelo : nombre del modelo del producto.
 - Nº serie : nº de serie del producto.
 - Nombre de dispositivo : facilite el nombre del dispositivo que aparecerá en la pantalla en directo.
 - Ubicación : especifique el lugar donde se va a instalar el codificador.
 - Descripción : proporcione información detallada sobre la ubicación del codificador.
 - Notas : proporcione una explicación sobre el codificador para una mejor comprensión.
 - Idioma : seleccione el idioma que desee para la OSD de Web Viewer.



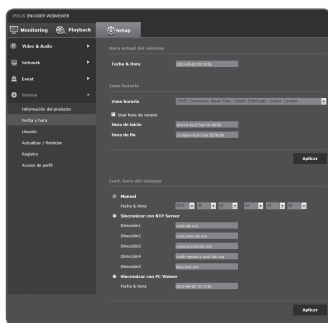
- El idioma predeterminado se define en <English>.

4. Una vez hecho, haga clic en [Aplicar ()].



Fecha y hora

1. En el menú de configuración, seleccione la ficha <System ()>.
 2. Haga clic en <Fecha y hora>.
 3. Especifique la hora y fecha que se aplicarán al codificador.
 - Hora actual del sistema : muestra los ajustes de hora actual del sistema.
 - Zona horaria : especifique la zona horaria local basándose en la GMT.
 - Usar hora de verano : si se marca, la hora se fijará una hora antes de la zona horaria local para el período de tiempo especificado.
Esta opción sólo aparecerá en áreas en las que se aplica DST.
 - Conf. hora del sistema : especifique la fecha y hora que se aplicará en el sistema.
 - Manual : especifique manualmente la hora.
 - Sincronizar con NTP Server : sincronice con la hora de la dirección de servidor especificada.
 - Sincronizar con PC Viewer : sincronice la hora con el PC conectado.
 4. Una vez hecho, haga clic en [**Aplicar** ()].
-  Si selecciona <Sincronizar con PC Viewer>, la zona horaria estándar sería la misma que la zona horaria actual del PC.



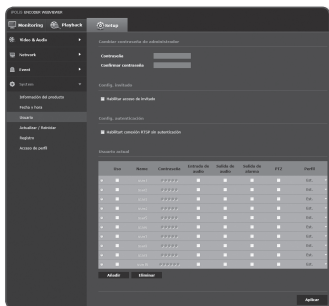
pantalla de configuración

Usuario

1. En el menú de configuración, seleccione la ficha <System (⚙️)>.
2. Haga clic en <Usuario>.
3. Facilite la información de usuario necesaria.
 - Cambiar contraseña de administrador :
Cambia la contraseña del administrador.



- A efectos de seguridad, se recomienda utilizar una combinación de números, letras del alfabeto en mayúsculas y minúsculas, y caracteres especiales para su contraseña.
- Se recomienda cambiar la contraseña una vez cada tres meses.
- La longitud de la contraseña y los límites se muestran como sigue.
 - Una combinación de al menos dos tipos de mayúsculas, minúsculas, números y caracteres especiales: 8 a 15 caracteres.
 - En caso de ser diferente de la ID.
 - No se puede repetir la misma letra o número de caracteres especiales más de tres veces.
 - No se pueden usar tres letras consecutivas (por ejemplo, ABC, 123, 321, o valores de código ASCII en el aumento o disminución de orden secuencial)
 - Caracteres especiales que se permiten. : ~!@#\$%^&*()_-=+~|[];.,?/
 - Después de la configuración de fábrica, se inicializan las contraseñas de administrador y de usuario. Es necesario restablecer la contraseña.
 - Cuando acceda a la página web del producto por primera vez o después de la inicialización, se le trasladará al menú de configuración de la contraseña de administrador.
 - En este menú, debe iniciar sesión de nuevo con la nueva contraseña antes de utilizar los menús de la página de la producto web.

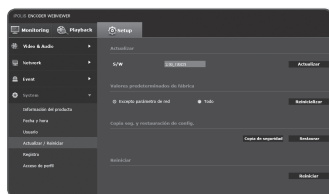


- Si la contraseña existente no se corresponde, al cambiar la contraseña de administrador, no podrá cambiar la contraseña.
 - Después de cambiar su contraseña, si hay un producto conectado a un cliente CMS o NVR, deberá volver a registrarse con la contraseña recién cambiada. Si el producto todavía está conectado con la misma contraseña, la cuenta puede quedar bloqueada debido a que un cliente utiliza la contraseña anterior.
 - Si intenta iniciar sesión con la cuenta registrada, y 5 o más veces consecutivas falla en la autenticación de contraseña, la cuenta puede ser bloqueada durante treinta segundos.
 - Cuando se cambia la contraseña mientras varias conexiones están activas desde un PC, el navegador podría no funcionar correctamente. En ese caso, vuelva a conectar con el servidor.
 - Config. invitado : si selecciona <Habilitar acceso de invitado>, la cuenta de invitado puede acceder a la pantalla de Web viewer pero sólo puede ver la pantalla de Live Viewer.
 - El ID/contraseña de la cuenta de invitado es <guest/guest>, y no se puede cambiar.
 - Config. autenticación : si selecciona <Habilitar conexión RTSP sin autenticación>, puede acceder a RTSP sin iniciar sesión y ver el vídeo.
 - Usuario actual : si selecciona <Uso>, puede definir o cambiar los permisos de usuario.
 - El administrador puede establecer los permisos para la entrada de audio, la salida de audio y la salida de alarma.
 - Perfil : si selecciona <Est.>, sólo puede ver el vídeo del perfil predeterminado; si se selecciona <Todo>, puede ver los vídeos completos del perfil.
-  ■ Las funciones ONVIF disponibles para un usuario registrado con autorización para utilizar dichas funciones están limitadas a los usuarios con permisos concedidos para ello.
- Transferencia de vídeo y cambio de información de vídeo: establezca el perfil en <Todos>, y establezca la entrada de audio y la salida de audio.
 - Transferencia de vídeo, cambio de información de vídeo, salida de alarma: establezca el perfil en <Todos> y seleccione el resto según sus preferencias.
 - Control de PTZ : Seleccione <PTZ>.
4. Una vez hecho, haga clic en [Aplicar ()].

pantalla de configuración

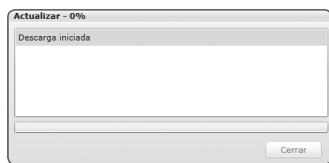
Actualizar / Reiniciar

1. En el menú de configuración, seleccione la ficha <System ()>.
2. Haga clic en <Actualizar / Reiniciar>.
3. Seleccione el elemento que desee y defínalo de la forma apropiada.
 - Actualizar : realiza la actualización del sistema.
 - Valores predeterminados de fábrica : reinicia el sistema con los valores predeterminados de fábrica.
 - Excepto parámetro de red : Inicie todos los parámetros de configuración excepto en la configuración de la red.
 - Todo : reinicie todos los parámetros, incluidos los del codificador. (no obstante, no se reiniciará la información de registro)
 - El sistema de direccionamiento IP adoptará la opción predeterminada DHCP si reinicia el codificador. Si no se encuentra el servidor DHCP, se recuperarán automáticamente los ajustes anteriores.
 - Copia seg. y restauración de config. : hace una copia de seguridad de los ajustes actuales del sistema antes de realizar el proceso de restauración. El sistema se reinicia automáticamente tras una copia de seguridad o una restauración.
 - Reiniciar : reinicia el sistema.



Para realizar la actualización

1. Haga clic en [Actualizar].
2. Haga clic en [Explorar] y especifique un archivo para la actualización.
3. Haga clic en [Enviar].
4. Aparece el cuadro de diálogo "Actualizar" con la progresión en la parte inferior.
5. Una vez completada la actualización, salir del navegador y el codificador vuelve a iniciarse.

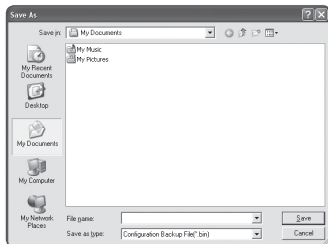




- Es posible que el proceso de actualización tarde hasta 20 minutos. Si termina a la fuerza el proceso de actualización, la actualización no se completará debidamente.
- Durante el reinicio del sistema, no se realizará el acceso con Web Viewer.
- Puede descargar la versión más reciente desde el sitio Web de Hanwha Techwin.

Para hacer una copia de los ajustes actuales

1. Haga clic en **[Copia de seguridad]**. Debe aparecer el diálogo de Guardar como.
2. Especifique la ruta con un nombre de archivo adecuado y haga clic en **[Save]**. El archivo de copia de seguridad se guardará en la ruta especificada con el formato **“.bin”**.

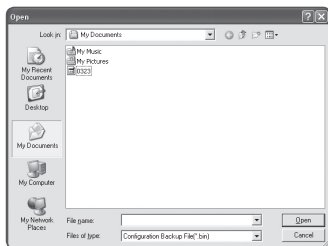


Para restaurar los ajustes de la copia de seguridad

1. Para restaurar los ajustes de copia de seguridad, haga clic en **[Restaurar]**.
2. Seleccione el archivo de copia de seguridad que desee y haga clic en **[Open]**.



- Si realiza la copia de seguridad o restauración, el navegador web se cierra y reinicia el codificador.

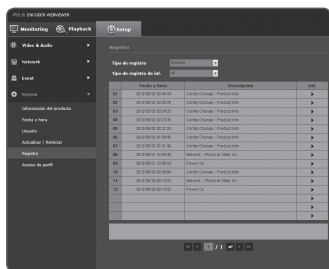


pantalla de configuración

Registro

Puede comprobar el registro del sistema o el registro de eventos.

1. En el menú de configuración, seleccione la ficha <System (⚙️)>.
2. Haga clic en <Registro>.
3. Seleccione un tipo de registro.
 - Sistema : puede comprobar los registros del sistema en los casos en los que se graben cambios del sistema incluida la información de hora.
 - Evento : puede comprobar los registros de eventos incluida la información de hora.



4. En la lista de registros de la derecha, seleccione un elemento que buscar.
 - Si seleccione <All> en la lista desplegable de la parte superior izquierda, aparecerán todos los registros del tipo de registro aplicable.
5. Si en una página no se puede mostrar todos los registros disponibles, utilice los botones inferiores para desplazarse al elemento anterior, siguiente o al último.

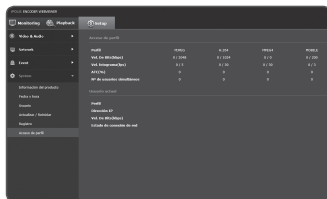


- Si desea ver los detalles de un registro, haga clic en [Inf. (🔍)] en la columna derecha del registro; la información de registro se mostrará en el panel inferior.
- Cada página muestra 15 registros con el más reciente en la parte superior.
- La lista del registro de eventos/sistema puede contener hasta 1000 registros; pasado este número, los registros más antiguos se borrarán para dar entrada a los nuevos registros creados.

Acceso de perfil

Puede comprobar la información del perfil.

1. En el menú de configuración, seleccione la ficha <System ()>.
 2. Haga clic en <Acceso de perfil>.
 - Acceso de perfil: muestra información del perfil recién añadido.
 - Perfil: muestra información del códec recién añadido.
 - Vel. De Bits(kbps): muestra la velocidad de bits real y la velocidad de bits definida.
 - Vel. fotograma(fps): muestra la velocidad de fotogramas real y la velocidad de fotogramas definida.
 - ATC(%): muestra el estado de ATC.
 - N° de usuarios simultáneos: muestra el número de usuarios simultáneos que acceden al perfil.
 - Usuario actual: muestra información sobre los usuarios que acceden a Web Viewer y ven el vídeo de vigilancia.
 - Perfil: muestra el nombre del perfil al que ha accedido el usuario.
 - Vel. De Bits(kbps): muestra la velocidad de bits actual.
 - Estado de conexión de red: puede comprobar el estado de la conexión de red.
 - IP: muestra la dirección IP del usuario actual.
-  ■ Para comprobar información sobre el perfil usado, haga clic de nuevo en <Acceso de perfil> para actualizarlo.



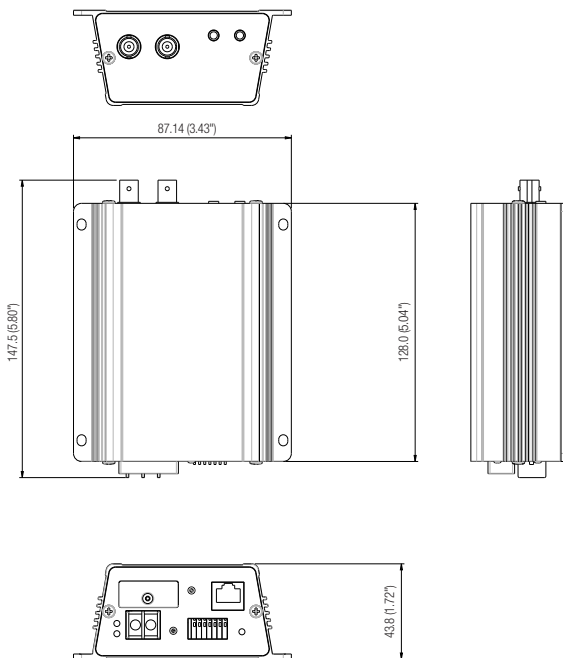
ESPECIFICACIONES

Opciones		Descripción
Funcionamiento	Entrada de vídeo	CVBS : 1.0Vp-p / 75Ω compuesto, Detecc. autom. de NTSC/PAL
	Salida de vídeo	CVBS : 1.0Vp-p / 75Ω compuesto, LOOP OUT
	Filtro de interlazado	Integrated
	Pérd. vídeo	Detección de movimiento, Entrada de alarma, Pérd. vídeo, Sabotaje, Desconexión de red
	E/S alarma	Entrada 1ea / Salida 1ea (Relé)
	Interfaz de control remoto	RS-485
	Protocolo RS-485	Samsung-T/E, Pelco-P/D, Panasonic, Honeywell, AD, Vicon, GE, Bosch, Sungjin
Red	Ethernet	RJ-45 (10/100BASE-T)
	Formato de compresión de vídeo	H.264, MPEG-4, Motion JPEG
	Resolución	NT : 704x480, 640x480, 352x240, 320x240 PAL : 704x576, 640x480, 352x288, 320x240
	Velo. máx. de fotogramas	NT : 30fps / PAL : 25fps
	Ajuste de calidad de vídeo	H.264 / MPEG-4 : Nivel de compresión, Control de nivel de vel. de bits de destino Motion JPEG : Control de nivel de calidad
	Método de control de vel. de bits	H.264 / MPEG-4 : CBR o VBR Motion JPEG : VBR
	Capacidad de flujo de datos	Flujo de datos múltiple (hasta 10 perfiles)
	E/S de audio	1 Entrada de línea / 1 Salida de línea
	Formato de compresión de audio	G.711 μ -law
	Comunicación de audio	Bidireccional
	IP	IPv4, IPv6

Opciones		Descripción
Red	Protocolo	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP
	Seguridad	Autenticación de inicio de sesión HTTPS(SSL) Autenticación de inicio de sesión Digest Filtro de dirección IP Registro de acceso de usuarios 802.1x
	Método de flujo de datos	Unicast / Multicast
	Acceso máx. de usuarios	10 usuarios en modo Unicast
	Ranura de memoria	Ranura de memoria SD/SDHC
	Compatibilidad ONVIF	Sí
	Visor Web	SO admitido : Window XP / VISTA / 7, Mac OS X (10.7 o superior) Navegador admitido : Internet Explorer (7.0 o superior), Firefox (9.0 o superior), Chrome (15.0 o superior), Safari (5.1 o superior)
Ambiental	Software de gestión central	SmartViewer 4.0, NET-i viewer
	Temperatura/humedad de funcionamiento	-10°C ~ +50°C (+14°F ~ +122°F) / 20% ~ 80% HR
Eléctrico	Protección de ingreso	-
	Tensión/corriente de entrada	12V CC, PoE(IEEE802.3af)
	Consumo de energía	Máx. 4 W
Mecánico	Color / Material	Plata/ Metal
	Dimensiones (An. x Al. x P.)	An 87,14 x Al 43,8 x Pr. 128,0 mm (3,43" x 1,72" x 5,04")
	Peso	391g

VISTA DEL PRODUCTO

Unidad : mm (pulg.)



SOLUCIÓN DE PROBLEMAS

PROBLEMA	SOLUCIÓN
No puedo acceder al codificador de vídeo de red desde un navegador web.	• Compruebe si los ajustes de Red del codificador de vídeo de red son válidos y correctos. • Asegúrese de que todos los cables de red se hayan conectado correctamente. • Si se conecta utilizando DHCP, verifique que el codificador de vídeo de red es capaz de adquirir las direcciones IP dinámicas sin ningún problema. • Si el codificador de vídeo de red está conectado a un enrutador, verifique que esté debidamente configurado el reenvío de puertos.
El Visualizador se desconecta durante el control.	• La conexión de Web Viewer existente puede caducar si el ajuste o la configuración de red del codificador de vídeo de red ha modificada por otro usuario. • Compruebe todas las conexiones de red. • La conexión de Web Viewer puede interrumpirse por un tráfico de red pobre o una situación defectuosa si el codificador de vídeo de red está conectado a una red PPPoE.
No se puede conectar al sistema mediante un navegador de Internet Explorer 7.0.	• Puede producirse un error cuando se conecta con una ventana o pestaña nuevas, ya que se comparten los datos de las cookies. No abra una nueva ventana o pestaña, seleccione "Archivo → Nueva sesión".
El codificador de vídeo de red conectado a la red no se detecta en el programa de IP Installer.	• Apague los ajustes del cortafuegos del PC y, a continuación, busque de nuevo el codificador de vídeo de red.
Se superponen imágenes.	• Compruebe si se han definido dos o más codificadores de vídeo de red en una sola dirección multicast en vez de direcciones diferentes. Si se utiliza una sola dirección para varios codificadores de vídeo de red, las imágenes se solaparán.
No aparece imagen.	• Si el método de transición se define en multicast, compruebe si hay un enrutador que admita multicast en la LAN a la que se conecta el codificador de vídeo de red.

apéndice

PROBLEMA	SOLUCIÓN
No se puede grabar en la tarjeta de memoria SD.	• Compruebe si la tarjeta de memoria está defectuosa. • Compruebe si la lengüeta de protección contra escritura de la tarjeta de memoria está definida en "LOCK".
El indicador de memoria SD no se enciende incluso cuando se inserta la tarjeta de memoria SD.	• Compruebe si la tarjeta de memoria está defectuosa. • Compruebe si se ha marcado Grabar en el menú <Setup> → <Event> → <Almacenamiento>.
El codificador de vídeo de red no funciona incluso tras insertar una tarjeta de memoria SD.	• Compruebe si la tarjeta de memoria se ha insertado correctamente en la dirección apropiada. No se garantiza el funcionamiento de la tarjeta de memoria formateada con otro dispositivo. • Formatee de nuevo la tarjeta de memoria en el menú <Setup> → <Event> → <Almacenamiento>.
No se puede formatear la tarjeta de memoria SD.	• Compruebe si la lengüeta de protección contra escritura de la tarjeta de memoria está definida en "LOCK".

OPEN SOURCE LICENSE NOTIFICATION 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@hanwha.com

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

- GPL Software : alsa-lib-1.0.12, alsa-utils-1.0.12, bash-4.1(<http://ftp.gnu.org/gnu/bash/>), busybox-1.15.3(<http://www.busybox.net/>), ethtool-3.5, iproute-1.15.3, iptables-1.3.7, mii-diag-2.11, wpa_supplicant-0.7.3(http://hostap.epitest.fi/wpa_supplicant/)
- LGPL Software : virtualawesome
- MPL Software : Mozilla Firefox(<http://www.mozilla.org/products/firebird/>)
- BSD2.0: lighttpd(<http://www.lighttpd.net/>), ppp-2.4.2(<http://ppp.samba.org/>), net-snmp-5.4.1(<http://www.net-snmp.org/>), game-ws(<https://code.google.com/p/game-ws/>), MiniUPnP Project Client(<http://miniupnp.tuxfamily.org/>)
- MIT License: libxml2-2.7.6, nourses-5.7, Gimpact Collision Kernel, Acewidget, bettermeans, jquery-ui, libxml, Mesa3D-MesaLib, mwEmbed, OpenGL Samples Pack, Wide Studio, xorg-server, dropbear-0.52(<https://matt.ucc.asn.au/dropbear/dropbear.html>)
- OpenSSL License: openssl-0.9.8e(<http://www.openssl.org/>)
- Bzip2 License : bzip2-1.0.5
- JPEG License : Code project – Generating Outline OpenGL, libjpeg

The GNU General Public License (GPL 2.0)

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 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 Library 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 a brief idea of what it does.

Copyright (C) <year> <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., 59 Temple Place, Suite 330, Boston, MA 02111-1307 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 Library General Public License instead of this License.

GNU GENERAL PUBLIC LICENSE (GPL 3.0)

Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/> Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed. Preamble The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too. When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs,

and that you know you can do these things.. To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the

source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it. For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions. Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users. Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special 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 services, 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 nonexercise 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 (LGPL 2.1)

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

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

Preamble

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

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

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

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

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

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

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

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

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

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

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

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

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

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

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

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

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

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

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

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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

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

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

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

- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

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

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

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

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

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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

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

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

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

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

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

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

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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

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

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

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

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

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

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

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

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

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

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

NO WARRANTY

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

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

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

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

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

Mozilla Public License

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

- Version 1.1
-

Definitions.

1.0.1. "Commercial Use"

means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor"

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

1.2. "Contributor Version"

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

1.3. "Covered Code"

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

1.4. "Electronic Distribution Mechanism"

means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable"

means Covered Code in any form other than Source Code.

1.6. "Initial Developer"

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

1.7. "Larger Work"

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

1.8. "License"

means this document.

1.8.1. "Licensable"

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

1.9. "Modifications"

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

- Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.
- Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code"

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

1.10.1. "Patent Claims"

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

1.11. "Source Code"

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

1.12. "You" (or "Your")

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

2. Source Code License.

2.1. The Initial Developer Grant.

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

- under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and
- under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
- the licenses granted in this Section 2.1 (a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.
- Notwithstanding Section 2.1 (b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant.

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

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

- b. under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).
- c. the licenses granted in Sections 2.2 (a) and 2.2 (b) are effective on the date Contributor first makes Commercial Use of the Covered Code.
- d. Notwithstanding Section 2.2 (b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.

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

3.2. Availability of Source Code.

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

3.3. Description of Modifications.

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

3.4. Intellectual Property Matters

(a) Third Party Claims

If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections 2.1 or 2.2, Contributor must include a text file with the Source

Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section 3.2, Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs

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

(c) Representations.

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

3.5. Required Notices.

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

3.6. Distribution of Executable Versions.

You may distribute Covered Code in Executable form only if the requirements of Sections 3.1, 3.2, 3.3, 3.4 and 3.5 have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section 3.2. The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.

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

4. Inability to Comply Due to Statute or Regulation.

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

5. Application of this License.

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

6. Versions of the License.

6.1. New Versions

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

6.2. Effect of New Versions

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

6.3. Derivative Works

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

7. DISCLAIMER OF WARRANTY

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

8. Termination

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

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

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

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

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

9. LIMITATION OF LIABILITY

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

10. U.S. government end users

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

11. Miscellaneous

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. Responsibility for claims

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

13. Multiple-licensed code

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

Exhibit A - Mozilla Public License.

"The contents of this file are subject to the Mozilla Public License Version 1.1 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.mozilla.org/MPL/>

Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License.

The Original Code is _____.

The Initial Developer of the Original Code is _____.

Portions created by _____ are Copyright (C) _____. All Rights Reserved.

Contributor(s): _____.

Alternatively, the contents of this file may be used under the terms of the _____ license (the "[] License"), in which case the

provisions of [] License are applicable instead of those above. If you wish to allow use of your version of this file only under the terms of the [] License and not to allow others

to use your version of this file under the MPL, indicate your decision by deleting the provisions above and replace them with the notice and other provisions required by the [] License. If you do not delete the provisions above, a recipient may use your version of this file under either the MPL or the [] License."

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

BSD License

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

Component Name	License	URL
lighttpd-1.4.31	BSD 2.0	http://www.lighttpd.net/assets/COPYING
ppp-2.4.2	BSD 2.0	http://ppp.samba.org/
net-snmp-5.4.1	BSD 2.0	http://www.net-snmp.org/about/license.html
game-ws	BSD 2.0	https://code.google.com/p/game-ws/
MiniUPnP Project Client	BSD 2.0	http://miniupnp.tuxfamily.org/

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

Copyright (c) 2004, Kneschke, incremental

All rights reserved.

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

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

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

- Neither the name of the 'incremental' nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

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

Component Name	URL
ppp-2.4.2	http://ppp.samba.org/

Copyright (c) 1994-2003 Paul Mackerras.

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. The name(s) of the authors of this software must not be used to endorse or promote products derived from this software without prior written permission.
4. Redistributions of any form whatsoever must retain the following acknowledgment:
"This product includes software developed by Paul Mackerras <paulus@samba.org>".

THE AUTHORS OF THIS SOFTWARE DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF

MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL THE AUTHORS BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright (c) 1995 Eric Rosenquist.

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. The name(s) of the authors of this software must not be used to endorse or promote products derived from this software without prior written permission.

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

Copyright (c) 1984-2000 Carnegie Mellon University.

All rights reserved.

Redistribution and use in source and binary forms are permitted provided that the above copyright notice and this paragraph are duplicated in all such forms and that any documentation, advertising materials, and other materials related to such distribution and use acknowledge that the software was developed by Carnegie Mellon University. The name of the University may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Copyright (c) 1995 Pedro Roque Marques.

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. The names of the authors of this software must not be used to endorse or promote products derived from this software without prior written permission.
4. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by Pedro Roque Marques <pedro_m@yahoo.com>"

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

Copyright (c) 1999 Tommi Komulainen.

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. The name(s) of the authors of this software must not be used to endorse or promote products derived from this software without prior written permission.

4. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by Tommi Komulainen <Tommi.Komulainen@iki.fi>".

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

Copyright (c) 2001 by Sun Microsystems, Inc.

All rights reserved.

Non-exclusive rights to redistribute, modify, translate, and use this software in source and binary forms, in whole or in part, is hereby granted, provided that the above copyright notice is duplicated in any source form, and that neither the name of the copyright holder nor the author is used to endorse or promote products derived from this software.

THIS SOFTWARE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Copyright (c) 2002 Google, Inc.

All rights reserved.

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

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name(s) of the authors of this software must not be used to endorse or promote products derived from this software without prior written permission.

THE AUTHORS OF THIS SOFTWARE DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHORS BE LIABLE FOR ANY SPECIAL, INDIRECT OR

CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

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

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

Copyright 1989, 1991, 1992 by Carnegie Mellon University

Derivative Work - 1996, 1998-2000

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

All Rights Reserved

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

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

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

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

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

All rights reserved.

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

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

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

* Neither the name of the Networks Associates Technology, Inc nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

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

----- Part 3: Cambridge Broadband Ltd. copyright notice (BSD) -----

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

All rights reserved.

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

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

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

* The name of Cambridge Broadband Ltd. may not be used to endorse or promote products derived from this software without specific prior written permission.

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

----- Part 4: Sun Microsystems, Inc. copyright notice (BSD) -----

Copyright (c) 2003 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A.

All rights reserved.

Use is subject to license terms below.

This distribution may include materials developed by third parties.

Sun, Sun Microsystems, the Sun logo and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

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

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

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

----- Part 5: Sparta, Inc copyright notice (BSD) -----

Copyright (c) 2003-2009, Sparta, Inc

All rights reserved.

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

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

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

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

----- Part 6: Cisco/BUPTNIC copyright notice (BSD) -----

Copyright (c) 2004, Cisco, Inc and Information Network Center of Beijing University of Posts and Telecommunications.

All rights reserved.

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

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

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

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

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

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

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

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE

COPYRIGHT HOLDER BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---- Part 8: Apple Inc. copyright notice (BSD) ----

Copyright (c) 2007 Apple Inc.

All rights reserved.

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

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

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

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

---- Part 9: ScienceLogic, LLC copyright notice (BSD) ----

Copyright (c) 2009, ScienceLogic, LLC

All rights reserved.

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

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

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT

HOLDERS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Component Name	URL
game-ws	https://code.google.com/p/game-ws/

Copyright (c) 2006, Creative Labs Inc

All rights reserved.

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

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

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

Component Name	URL
MiniUPnP Project Client	http://miniupnp.tuxfamily.org/

Copyright (c) 1991, 1993 The Regents of the University of California.

All rights reserved.

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

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

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

Copyright (c) 2005-2012, Thomas BERNARD

All rights reserved.

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

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

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

The MIT License

Some software components of this product incorporate source code covered under the MIT license as follows
MIT License 2.0

libxml2-2.7.6, ncurses-5.7, Gimpact Collision Kernel, Acewidget, bettermeans, jquery-ui, libxml, Mesa3D-MesaLib, mwEmbed, OpenGL Samples Pack, Wide Studio, xorg-server,
dropbear- 0.52 (<https://matt.ucc.asn.au/dropbear/dropbear.html>)

Copyright (c) 2011, The Dojo Foundation

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

Dual licensed under the MIT or GPL Version 2 licenses.

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

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

Copyright Daniel Veillard

Copyright Igor Zlatovic <igor@zlatkovic.com>

Copyright Aleksey Sanin

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

Copyright Alfred Mickautsch <alfred@mickautsch.de>

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

Copyright Joel W. Reed

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

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

Copyright Atish Kumar Patra

Copyright (c) 1999-2000 Pawel W. Olszta.

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

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

Component Name	License	URL
dropbear-0.52	MIT 2.0	http://www.opensource.org/licenses/mit-license.php

Dropbear contains a number of components from different sources, hence there are a few licenses and authors involved. All licenses are fairly non-restrictive.

The majority of code is written by Matt Johnston, under the license below.

Portions of the client-mode work are (c) 2004 Mihnea Stoenescu, under the same license:

Copyright (c) 2002-2006 Matt Johnston

Portions copyright (c) 2004 Mihnea Stoenescu

All rights reserved.

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

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

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

=====

LibTomCrypt and LibTomMath are written by Tom St Denis, and are Public Domain.

=====

sshpty.c is taken from OpenSSH 3.5p1,

Copyright (c) 1995 Tatu Ylonen <ylo@cs.hut.fi>, Espoo, Finland

All rights reserved

"As far as I am concerned, the code I have written for this software can be used freely for any purpose. Any derived versions of this software must be clearly marked as such, and if the derived work is incompatible with the protocol description in the RFC file, it must be called by a name other than "ssh" or "Secure Shell". "

=====

loginrec.c

loginrec.h

atomicio.h

atomicio.c

and strlcat() (included in util.c) are from OpenSSH 3.6.1p2, and are licensed under the 2 point BSD license.

loginrec is written primarily by Andre Lucas, atomicio.c by Theo de Raadt.

strlcat() is (c) Todd C. Miller

=====

Import code in keyimport.c is modified from PuTTY's import.c, licensed as follows:

PuTTY is copyright 1997-2003 Simon Tatham.

Portions copyright Robert de Bath, Joris van Rantwijk, Delian Delchev, Andreas Schultz, Jeroen Massar, Wez Furlong, Nicolas Barry, Justin Bradford, and CORE SDI S.A.

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

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

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

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/>)"

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 opensslcore@openssl.org.
 5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
 6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)"
- THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

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

Original SSLeay License

Copyright (C) 1995-1998 Eric Young (ey@cryptsoft.com)
All rights reserved. This package is an SSL implementation written by Eric Young (ey@cryptsoft.com). The implementation was written so as to conform with Netscapes SSL. This library is free for commercial and noncommercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson (tjh@cryptsoft.com).

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

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

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. The licence and distribution terms for any publicly available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence].

bzip2 License

bzip2-1.0.5

<http://www.bzip.org/>

This program, "bzip2", the associated library "libbzip2", and all documentation, are copyright (C) 1996-2005 Julian R Seward. 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. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
3. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

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

The Independent JPEG Group's JPEG Software

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

- JPEG license
 - Code project - Generating Outline OpenGL, libjpeg
-

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

Serious users of this software (particularly those incorporating it into larger programs) should contact IJG at ijpeg-info@uunet.uu.net to be added to our electronic mailing list. Mailing list members are notified of updates and have a chance to participate in technical discussions, etc. This software is the work of Tom Lane, Philip Gladstone, Jim Boucher, Lee Crocker, Julian Minguillon, Luis Ortiz, George Phillips, Davide Rossi, Guido Vollbeding, Ge' Weijers, and other members of the Independent JPEG Group. IJG is not affiliated with the official ISO JPEG standards committee.

LEGAL ISSUES

=====

In plain English:

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

The authors make NO WARRANTY or representation, either express or implied, with respect to this software, its quality, accuracy, merchantability, or fitness for a particular purpose. This software is provided "AS IS", and you, its user, assume the entire risk as to its quality and accuracy. This software is copyright (C) 1991-1998, Thomas G. Lane. All Rights Reserved except as specified below. Permission is hereby granted to use, copy, modify, and distribute this software (or portions thereof) for any purpose, without fee, subject to these conditions:

- (1) If any part of the source code for this software is distributed, then this README file must be included, with this copyright and no-warranty notice unaltered; and any additions, deletions, or changes to the original files must be clearly indicated in accompanying documentation.

- (2) If only executable code is distributed, then the accompanying documentation must state that "this software is based in part on the work of the Independent JPEG Group".

- (3) Permission for use of this software is granted only if the user accepts full responsibility for any undesirable consequences; the authors accept NO LIABILITY for damages of any kind.

These conditions apply to any software derived from or based on the IJG code, not just to the unmodified library. If you use our work, you ought to acknowledge us. Permission is NOT granted for the use of any IJG author's name or company name in advertising or publicity relating to this software or products derived from it. This software may be referred to only as "the Independent JPEG Group's software". We specifically permit and encourage the use of this software as the basis of commercial products, provided that all warranty or liability claims are assumed by the product vendor. `ansi2knr.c` is included in this distribution by permission of L. Peter Deutsch, sole proprietor of its copyright holder, Aladdin Enterprises of Menlo Park, CA. `ansi2knr.c` is NOT covered by the above copyright and conditions, but instead by the usual distribution terms of the Free Software Foundation; principally, that you must include source code if you redistribute it. (See the file `ansi2knr.c` for full details.) However, since `ansi2knr.c` is not needed as part of any program generated from the IJG code, this does not limit you more than the foregoing paragraphs do. The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (`config.guess`, `config.sub`, `ltconfig`, `ltmain.sh`). Another support script, `install-sh`, is copyright

by M.I.T. but is also freely distributable. It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code. The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders. We are required to state that "The Graphics Interchange Format(c) is the Copyright property of CompuServe Incorporated. GIF(sm) is a Service Mark property of CompuServe Incorporated."



Hanwha Techwin respeta el medio ambiente durante todo el proceso de fabricación de sus productos y realiza una serie de procedimientos orientados a ofrecer productos ecológicos. El símbolo Eco representa el compromiso de Hanwha Techwin de fabricar productos que respeten el medio ambiente e indica a la vez que este equipo cumple con la Directiva de la Unión Europea EU RoHS.



Eliminación correcta de este producto (Residuos de aparatos eléctricos y electrónicos)

(Aplicable en la Unión Europea y en países europeos con sistemas de recogida selectiva de residuos)

La presencia de este símbolo en el producto, accesorios o material informativo que lo acompañan, indica que al finalizar su vida útil ni el producto ni sus accesorios electrónicos (como el cargador, cascos, cable USB) deberán eliminarse junto con otros residuos domésticos. Para evitar los posibles daños al medio ambiente o a la salud humana que representa la eliminación incontrolada de residuos, separe estos productos de otros tipos de residuos y recícelos correctamente. De esta forma se promueve la reutilización sostenible de recursos materiales.

Los usuarios particulares pueden contactar con el establecimiento donde adquirieron el producto o con las autoridades locales pertinentes para informarse sobre cómo y dónde pueden llevarlo para que sea sometido a un reciclaje ecológico y seguro.

Los usuarios comerciales pueden contactar con su proveedor y consultar las condiciones del contrato de compra. Este producto y sus accesorios electrónicos no deben eliminarse junto a otros residuos comerciales.



Eliminación correcta de las baterías de este producto

(Aplicable en la Unión Europea y en otros países europeos con sistemas de recogida selectiva de baterías.)

La presencia de esta marca en las baterías, el manual o el paquete del producto indica que cuando haya finalizado la vida útil de las baterías no deberán eliminarse junto con otros residuos domésticos. Los símbolos químicos Hg, Cd o Pb, si aparecen, indican que la batería contiene mercurio, cadmio o plomo en niveles superiores a los valores de referencia admitidos por la Directiva 2006/66 de la Unión Europea. Si las baterías no se desechan convenientemente, estas sustancias podrían provocar lesiones personales o dañar el medioambiente.

Para proteger los recursos naturales y promover el reciclaje, separe las baterías de los demás residuos y recícelas mediante el sistema de recogida gratuito de su localidad.

MEMO

Head Office

6, Pangyo-ro 319 beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, 463-400 Rep. of KOREA
Tel : +82.70.7147.8753 Fax : +82.31.8018.3740
www.hanwha-security.com

Hanwha Techwin America

500 Frank W. Burr Blvd. Suite 43 Teaneck, NJ 07666
Toll Free +1.877.213.1222 Direct +1.201.325.6920
Fax +1.201.373.0124
www.hanwha-security.com

Hanwha Techwin Europe

Heriot House, Heriot Road, Chertsey, Surrey, KT16 9DT, United Kingdom
Tel +44.1932.57.8100 Fax +44.1932.57.8101
www.hanwha-security.eu
