METRO red móvil oGrabadora de video rk

(METRO NVR4104-I /MNVR4208-Serie I)

A nosotros manual de er

V1.0.1

Prefacio

Modelos

Serie MNVR4104/4208-I

Instrucciones de seguridad

Las siguientes palabras de advertencia categorizadas con un significado definido pueden aparecer en el manual.

Palabras de advertencia	Sentido
 PELIGRO	Indica un peligro de alto potencial que, si no se evita, provocará la muerte o lesiones graves.
 ADVERTENCIA	Indica un peligro potencial medio o bajo que, si no se evita, podría provocar lesiones leves o moderadas.
 PRECAUCIÓN	Indica un riesgo potencial que, si no se evita, podría provocar daños a la propiedad, pérdida de datos, reducción del rendimiento o resultados impredecibles.
 PUNTAS	Proporciona métodos para ayudarlo a resolver un problema o ahorrar tiempo.
 NOTA	Proporciona información adicional como suplemento al texto.

Revisión histórica

Versión	Contenido de revisión	Fecha de lanzamiento
V1.0.1	Agregue la configuración de AI y modifique la captura de pantalla de la interfaz WEB.	junio 2022
V1.0.0	Primer lanzamiento.	noviembre 2021

Aviso de protección de privacidad

Como usuario del dispositivo o controlador de datos, puede recopilar datos personales de otros, como su rostro, huellas dactilares y número de matrícula. Debe cumplir con las leyes y regulaciones locales de protección de la privacidad para proteger los derechos e intereses legítimos de otras personas mediante la implementación de medidas que incluyen, entre otras: Proporcionar una identificación clara y visible para informar a las personas sobre la existencia del área de vigilancia y proporcione la información de contacto requerida.

Sobre el Manual

- El manual es solo para referencia. Se pueden encontrar ligeras diferencias entre el manual y el producto.
- No somos responsables de las pérdidas sufridas debido a la operación del producto de manera que no cumpla con el manual.
- El manual se actualizará de acuerdo con las últimas leyes y reglamentos de las jurisdicciones relacionadas.

Para obtener información detallada, consulte el manual del usuario en papel, use nuestro CD-ROM, escanee el código QR o visite nuestro sitio web oficial. El manual es solo para referencia. Se pueden encontrar ligeras diferencias entre la versión electrónica y la versión en papel.

- Todos los diseños y el software están sujetos a cambios sin previo aviso por escrito. Las actualizaciones del producto pueden dar lugar a que aparezcan algunas diferencias entre el producto real y el manual. Póngase en contacto con el servicio de atención al cliente para obtener el programa más reciente y la documentación complementaria.
- Puede haber errores en la impresión o desviaciones en la descripción de las funciones, operaciones y datos técnicos. Si hay alguna duda o disputa, nos reservamos el derecho de dar una explicación final. Actualice el
- software del lector o pruebe con otro software del lector convencional si no se puede abrir el manual (en formato PDF).
- Todas las marcas comerciales, marcas registradas y nombres de compañías en el manual son propiedad de sus respectivos dueños.
- Visite nuestro sitio web, póngase en contacto con el proveedor o con el servicio de atención al cliente si se produce algún problema durante el uso del dispositivo.
- Si hay alguna duda o controversia, nos reservamos el derecho de la explicación final.

Medidas de seguridad y advertencias importantes

Este capítulo describe el contenido que cubre el manejo adecuado de la grabadora, la prevención de riesgos y la prevención de daños a la propiedad. Lea este contenido detenidamente antes de utilizar la grabadora, respételos cuando lo utilice y guárdelo en buen estado para consultarlo en el futuro.

Requisitos

- No coloque ni instale el registrador cerca de una fuente de calor o donde haya luz solar directa. No
- instale la grabadora en un lugar húmedo, polvoriento o con smog.
- Instale la grabadora horizontalmente o en un lugar estable. Tome medidas para evitar que se caiga. No
- gotee ni salpique líquido sobre el registrador. Asegúrese de que la grabadora no lleve ningún objeto lleno de líquido para evitar que el líquido fluya hacia la grabadora.
- Evite que entren objetos extraños en la grabadora, lo que podría provocar daños.
- Instale la grabadora en un lugar con buena ventilación. No obstruya las rejillas de ventilación de la grabadora. Use
- la grabadora solo dentro del rango nominal de entrada y salida.
- No desmonte la grabadora sin permiso.
- No transporte la grabadora con el panel frontal hacia abajo.
- Transporte, utilice y almacene el registrador en las condiciones de humedad y temperatura permitidas. No
- exponga la grabadora al agua ni a la humedad excesiva cuando lave el automóvil. Si no se siguen estas instrucciones, se pueden producir cortocircuitos, incendios u otros fallos de funcionamiento.
- El polvo en la placa de circuito provocará un cortocircuito, lo que afectará el funcionamiento normal de la grabadora e incluso dañará la grabadora. Para que la grabadora funcione de manera estable durante mucho tiempo, use regularmente el cepillo para quitar el polvo de los componentes, incluidos la placa de circuito, los conectores y el chasis.
- Mantenga el Registrador instalado horizontalmente y asegúrese de que los componentes antivibración internos funcionen correctamente.
- Desbloquee la caja del disco duro antes de sacarla; de lo contrario, podría dañar la grabadora.
- Después de conectar todos los cables, átelos para evitar peligros como cortocircuitos, calor y descargas eléctricas como resultado de cables sueltos.
- Cuando una grabadora está conectada con una pantalla de montaje en automóvil, monte la cámara a una distancia mínima de 2 m de la pantalla. Si la cámara y la pantalla están demasiado cerca, baje el volumen de la pantalla del soporte para automóvil para evitar chirridos.

requerimientos de energía

- Use la batería exactamente como se indica; de lo contrario, la batería podría incendiarse o explotar.
- ¡Reemplácelas siempre con el mismo tipo de baterías!
- ¡Use los cables (cables de alimentación) recomendados para la región donde se usa la grabadora dentro del rango especificado de especificaciones!
- El acoplador de aparatos es un registrador de desconexión. Mantenga un ángulo conveniente cuando lo use. Tenga
- cuidado de completar la conexión del circuito. El incumplimiento de esta instrucción puede provocar daños en la grabadora.
- Evite que ocurra un cortocircuito en todas las partes del cableado externo.
- Una vez completadas todas las conexiones de las líneas, puede comenzar a conectar el cable de alimentación.
- Asegúrese de que el proyecto esté bien conectado a tierra para evitar interferencias con las señales de video y audio y evitar

tensión electrostática o inducida que dañe el registrador.

- Desenchufe el cable de alimentación antes de quitar el cable de señal de audio/video, el cable RS-232 o RS-485; de lo contrario, estos puertos podrían dañarse.

Tabla de contenido

1 Introducción del producto

1.1 Visión general

Los productos de monitoreo de video móvil de la serie MNVR4104/4208-I se desarrollan en la nueva generación de plataforma, integrando video, localización y grabación de conducción.

Características:

- Admite hasta cuatro/ocho rutas de entrada de video remota y resolución de 4MP. El uso de la codificación H.265 garantiza una alta
- eficiencia de codificación y ahorra espacio de almacenamiento. Los módulos de red inalámbrica de Netcom se integran después de
- una consideración completa de las necesidades de aplicación de red de los productos de montaje en automóvil.

- El uso de un diseño profesional de montaje en automóvil en tamaño estándar presenta un bajo consumo de energía y una forma novedosa.
- El amplio rango de voltaje de alimentación se adapta a varias fuentes de alimentación de montaje en automóvil.
- El exclusivo diseño de almacenamiento para automóvil HDD y SD facilita la copia de seguridad y la administración de grabaciones. Este
- producto se puede usar ampliamente para el monitoreo de montaje de automóviles en el transporte público, el transporte de pasajeros de largo alcance, la patrulla policial, la patrulla de gestión urbana, los transportistas de efectivo, el transporte de mercancías peligrosas y el transporte logístico, o el monitoreo de video en entornos hostiles.

1.2 Funciones

Función	Descripción
Almacenamiento	Almacena los datos en el formato dedicado que no se puede falsificar y garantiza la seguridad de los datos.
Compresión	Admite señales de audio y video multicanal, y cada señal de canal admite compresión en tiempo real por hardware independiente para realizar la sincronización entre el sonido y la imagen.
Respaldo	● Conecte un dispositivo de almacenamiento USB (como un disco flash USB y un disco duro móvil) para hacer una copia de seguridad ● Puede hacer una copia de seguridad de los datos descargando los archivos del dispositivo HDD y la tarjeta SD a través de Internet
Reproducción de vídeo	● Cada canal admite grabación en tiempo real e independiente, y puede reproducir hacia atrás, monitorear en Internet, consultar y descargar grabaciones ● Admite varios modos de reproducción: reproducción lenta, reproducción rápida, reproducción hacia atrás y reproducción cuadro por cuadro. ● Muestra la hora exacta en que ocurrió el evento durante la reproducción.
Operación a través La red	Admite operaciones remotas a través de la red, como monitoreo remoto en tiempo real, búsqueda y reproducción de videos grabados y control PTZ

Función	Descripción
Enlace de alarma	● Proporciona ocho rutas de entradas de alarma de nivel eléctrico que pueden conectarse a señales como la señal de la puerta del automóvil, la señal de la luz de curvas, la señal de marcha atrás y de frenado, para dar una indicación y tomar un registro. ● Admite una ruta de salida de alarma de nivel eléctrico para realizar un enlace de alarma fácil ● Admite un circuito de protección para el puerto de entrada de alarma y el puerto de salida de alarma, que protegen el dispositivo contra daños.
Comunicación interfaces	● Ofrece interfaces RS-485 para conectarse con dispositivos externos Ofrece interfaces ● RS-232 para conectarse con una pantalla externa para montaje en automóvil Ofrece ● puertos Ethernet estándar que admiten el acceso remoto a la red
Operaciones inteligentes	● Operaciones del ratón ● Las mismas configuraciones en el menú se pueden copiar y pegar rápidamente
Posicionamiento satelital	Admite la función de posicionamiento y el enlace de grabación. La búsqueda de grabación se puede vincular con la pista en movimiento del vehículo
celular, wifi redes	Adopta la última tecnología de comunicación inalámbrica, que ha mejorado la capacidad de administración del dispositivo.
Disco duro extraíble	El diseño extraíble y sísmico le permite bloquear y mover el HDD fácilmente para realizar una copia de seguridad de los datos. Simplemente conecte el HDD extraíble al puerto USB de la PC, puede realizar operaciones relacionadas con datos convenientemente.
Doble flujo	Para hacer frente al bajo ancho de banda y la inestabilidad de la red inalámbrica, el dispositivo adopta la tecnología de flujo dual (codifica el video en tiempo real y codifica el video en la transmisión de la red, respectivamente) para optimizar la codificación de la transmisión de la red, lo que mejora la capacidad de control de la red inalámbrica. transmisión de red
vuelco y detección de colisiones	El giroscopio integrado admite detecciones de vuelco, colisión, giro rápido, aceleración rápida, freno brusco, apagado del ACC y alarmas de liberación oportuna a través de la plataforma.

2 Dimensiones e instalación

Describe la instalación del hardware. Antes de la instalación, debe conocer el panel frontal, el panel posterior, los tamaños estructurales y la definición de la interfaz del dispositivo. Luego puede instalar el disco duro, la tarjeta SIM, la tarjeta SD, la antena y los dispositivos correspondientes.

2.1 Cheque listo para usar

Cuando reciba el Dispositivo, desembale la caja para los cheques.

En primer lugar, verifique si hay algún daño en la apariencia del dispositivo (aunque los materiales de embalaje se seleccionan especialmente para proteger el dispositivo de la mayoría de los golpes accidentales durante el transporte). En segundo lugar, abra la caja de accesorios para verificar si los accesorios están completos contra la lista de empaque.

Instrucciones sobre el panel frontal, el panel posterior y las etiquetas:

- Las funciones de las luces indicadoras y los puertos se describen en el último capítulo del Manual. Las
- etiquetas del Dispositivo son muy importantes para nuestro servicio posventa. Para garantizar el servicio postventa,**mantenga bien las etiquetas y no las rompa ni las tire.**Debe proporcionar el número de serie del producto cuando llame al servicio posventa.

2.2 Estructura del registrador

2.2.1 Panel frontal

Describe las funciones de los indicadores e interfaces del panel frontal.

Figure 2-1 Panel frontal

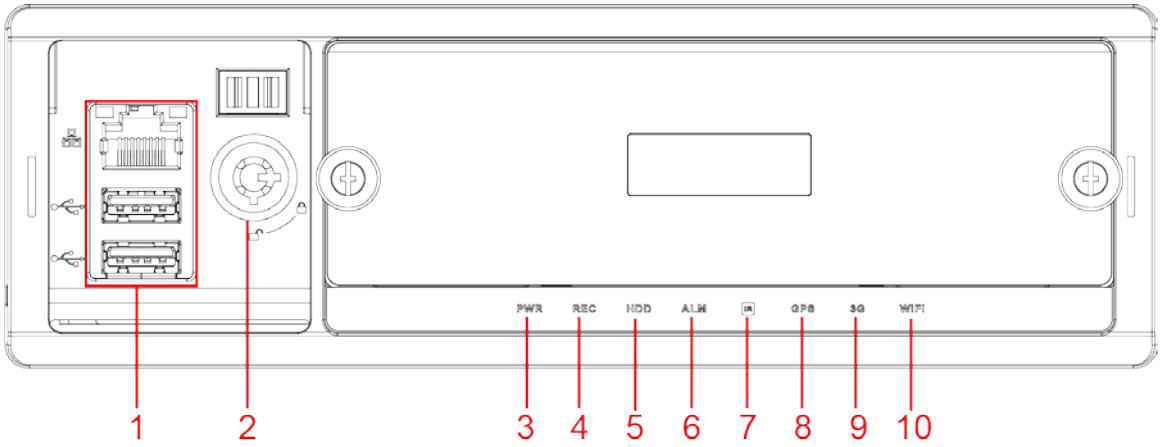


Tabla 2-1 Descripciones de interfaces e indicadores

No.	Nombre	Descripciones de interfaces e indicadores
1	Puerto de red RJ-45	Un puerto de red.
	interfaz USB	Dos puertos USB que se conectan a dispositivos periféricos como un dispositivo de almacenamiento USB y un mouse.

No.	Nombre	Descripciones de interfaces e indicadores
2	Interruptor de bloqueo (Dispositivo cambiar)	● Al sacar el disco duro, el dispositivo debe estar desbloqueado y, si el dispositivo está encendido, se apagará automáticamente. ● Para proteger el disco duro, este dispositivo no se puede encender si está desbloqueado. Encender el dispositivo solo después de bloquearlo
3	poder	La luz roja siempre está encendida cuando el dispositivo está encendido y apagada cuando el dispositivo está apagado
4	REC	Indicador de estado de grabación. La luz azul siempre está encendida cuando se graba y apagada cuando no
5	disco duro	Indicador de estado del disco duro. La luz azul siempre está encendida cuando hay un HDD instalado y apagada cuando no hay HDD.
6	ALM	Indicador de estado de alarma. La luz azul siempre está encendida cuando se producen alarmas y apagada cuando no
7	infrarrojos	Recibe la señal infrarroja del control remoto.
8	GPS	Indicador de estado del GPS. Se ilumina en azul cuando el posicionamiento es exitoso y el indicador se apaga cuando falla el posicionamiento. Esta función es compatible con el dispositivo con módulo de posicionamiento GPS.
9	3G	Indicador de estado 3G. Se ilumina en azul cuando el acceso telefónico 3G funciona correctamente y el indicador está apagado cuando la función 3G no está habilitada. Esta función es compatible con el dispositivo con módulo 3G.
10	Wifi	Indicador de estado de wifi. Se ilumina en azul cuando la conexión Wi-Fi es correcta y el indicador está apagado cuando la conexión Wi-Fi está desconectada. Esta función es compatible con el dispositivo con módulo Wi-Fi.

2.2.2 Panel trasero

Describe las funciones de interfaz del panel posterior.

La ilustración de los paneles posteriores del Dispositivo. Consulte la Figura 2-2 y la Figura 2-3. La Figura 2-2 describe las funciones de la interfaz. Para conocer las definiciones de la interfaz, consulte “2.2.3 Descripción del puerto”.

Figure 2-2 MNVR4104-I panel trasero

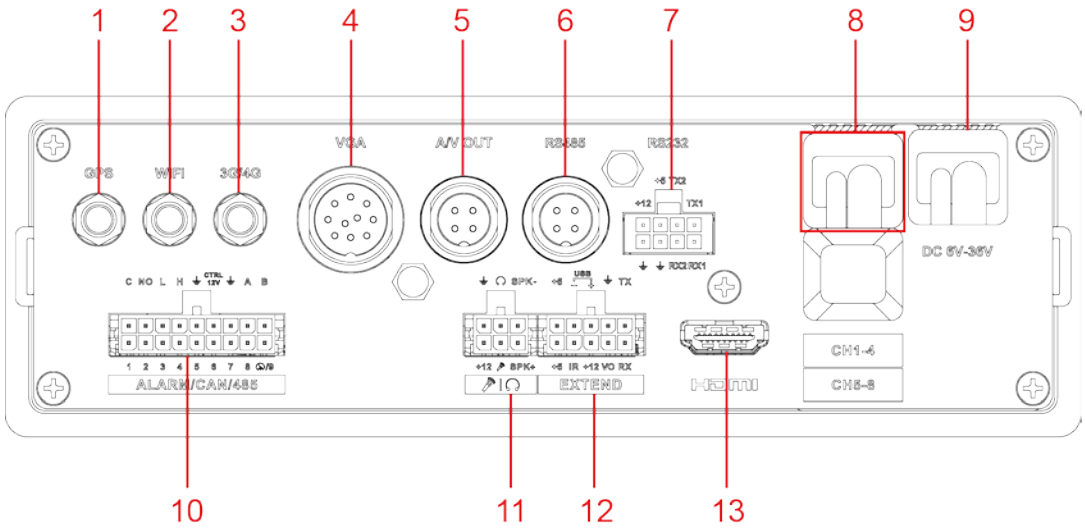


Figure 2-3 MNVR4208-I panel trasero

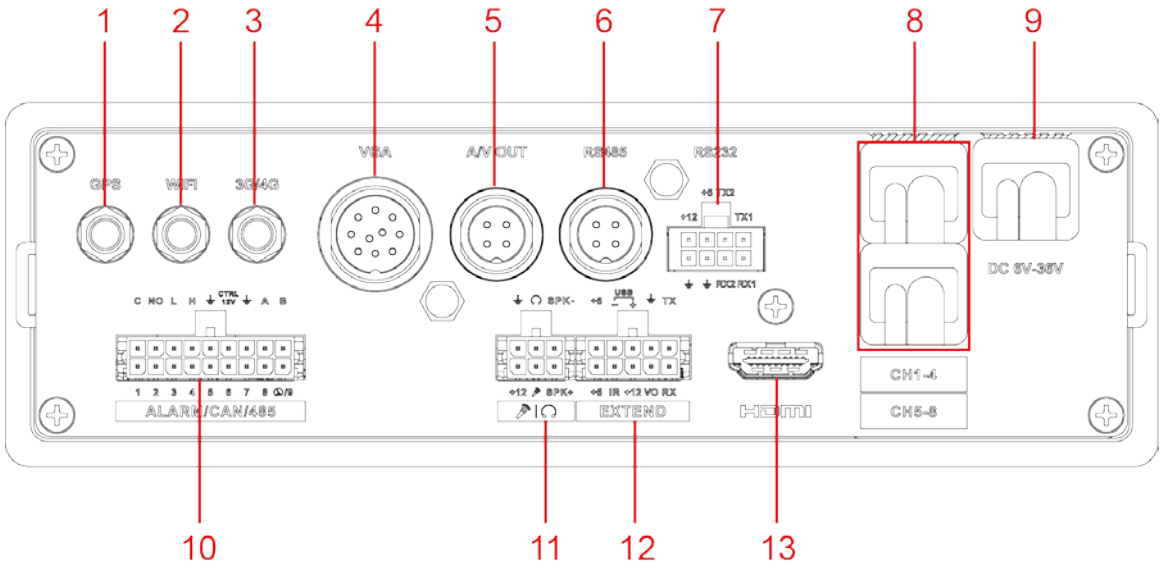


Tabla 2-2 Descripciones de las interfaces del panel posterior

No.	Nombre	Función
1	Posicionamiento puerto de antena	Se conecta con antena de posicionamiento para recibir señales de posicionamiento satelital Esta función es compatible con el dispositivo con módulo de posicionamiento
2	puerto de antena wifi	Se conecta a la antena Wi-Fi y recibe señales Wi-Fi. Esta función es compatible con el dispositivo con módulo Wi-Fi.
3	antena 3G/4G Puerto	Se conecta a la antena 3G/4G para recibir señales celulares. Esta función es compatible con el Dispositivo con módulos celulares.
4	interfaz vga	Emite datos de video analógico a la pantalla conectada con puerto VGA. Para obtener más información, consulte la introducción "Puerto VGA".
5	Puerto de SALIDA AV	Se conecta a la pantalla con función de audio en el vehículo para la salida simultánea de datos de video y audio. Para obtener más información, consulte la introducción "Puerto A/V OUT"

No.	Nombre	Función
6	RS-485	Puerto de comunicación RS-485.
7	Interfaz RS-232	Se conecta a dispositivos RS-232 externos. Para obtener más información, consulte la introducción "Interfaz RS-232"
8	CH1-4 CH5-8	Se conecta a la cámara IP. Diferentes dispositivos corresponden a diferentes números de canales
9	Cable de energía	Se conecta a la fuente de alimentación DC 6V-DC 36V para obtener energía del acumulador del automóvil ● El extremo rojo con fusible es el ánodo de la fuente de alimentación (cable siempre vivo) ● El cable negro es el cable de tierra. ● El naranja es la señal ACC (cable de inicio clave)
10	ALARMA/CAN/485	● Puerto de entrada/salida de alarma: incluye puerto de entrada/salida de alarma, conexión a tierra y puerto de salida de 12 V. Para obtener más información, consulte “2.5 Conexión de entrada y salida de alarma”. ● Puerto CAN: se utiliza para la transferencia de datos entre el dispositivo y la red CAN del vehículo u otros dispositivos con puerto CAN ● A, B: Controla las operaciones de PTZ.
11	Puerto de conversación de voz	Se conecta al dispositivo de conversación de voz. Para obtener más información, consulte la introducción "Puerto de conversación de voz".
12	EXTENDIR puerto	Consulte la introducción de “EXTEND Port”.
13	Interfaz HDMI	Se utiliza para conectar con pantalla HDMI

2.2.3 Descripción del puerto

Este manual solo describe las funciones de todos los conectores de cada interfaz. Puedes seguir estas descripciones para preparar los cables o póngase en contacto con nuestro personal de ventas para la compra de cables.

2.2.3.1 Entrada de energía

Figure 2-4 Interfaz de entrada de energía

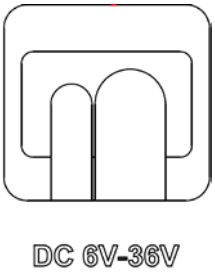


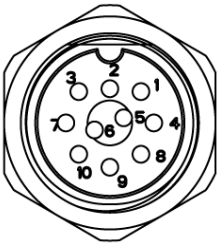
Tabla 2-3 Interfaces de entrada de alimentación (de izquierda a derecha)

Color de los cables	Patas
Rojo	Entrada de ánodo
Negro	Terrestre

Color de los cables	Patas
Naranja	Entrada de señal ACC

2.2.3.2 Interfaz VGA

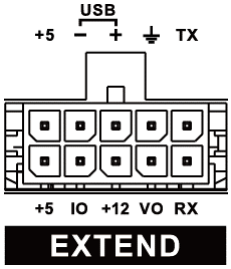
Figure 2-5 interfaz vga



No.	Función	No.	Función	No.	Función
1	+ salida 12V/1A	5	Salida de audio	9	Sincronización de línea VGA
2	Línea de tierra	6	VGA_B	10	Sincronización de línea VGA
3	VGA_G	7	VGA_R	-	-
4	RXD_232	8	TXD_232	-	-

2.2.3.3 Puerto EXTENDIDO

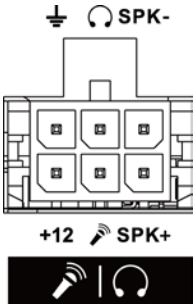
Figure 2-6 EXTENDIR puerto



Nombre	Función
+ 5	USB +5V (línea inferior)
+ 5	USB +5V (línea superior)
-	USB data- y USB data+ que se conectan al puerto USB.
+	
IO	Reservado, utilizado para ampliar la personalización.
+ 12	+ salida 12V/1A.
⏚	Terrestre
VO	Salida de vídeo AV
RX	Emisor y receptor de puerto serie RS-232 que se conecta al puerto RS-232
Texas	

2.2.3.4 Puerto de conversación de voz

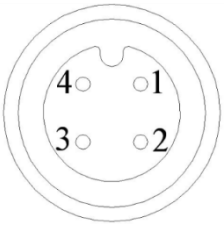
Figure 2-7 Puerto de conversación de voz



Nombre	Función
+ 12	+ salida de 12V
⏚	Terrestre
🎤	Mic In que se puede conectar al micrófono.
🎧	Salida de micrófono que se puede conectar al auricular.
SPK+	Habla polo positivo
SPK-	Habla polo negativo

2.2.3.5 Puerto de SALIDA AV

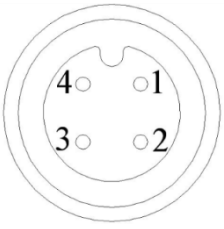
Figure 2-8 Puerto de SALIDA AV



Nombre	Función
1	+ salida 12V/1A
2	Línea de tierra
3	Salida de audio
4	Salida de vídeo

2.2.3.6 Interfaz RS-232

Figure 2-9 Interfaz RS-232



Nombre	Función
1	+ salida 12V/1A
2	Línea de tierra

Nombre	Función
3	RXD_232
4	TXD_232

2.2.4 Dibujo acotado

Figure 2-10 MNVR4104-I dibujo estructural y dimensional (Unidad: mm [pulgadas])

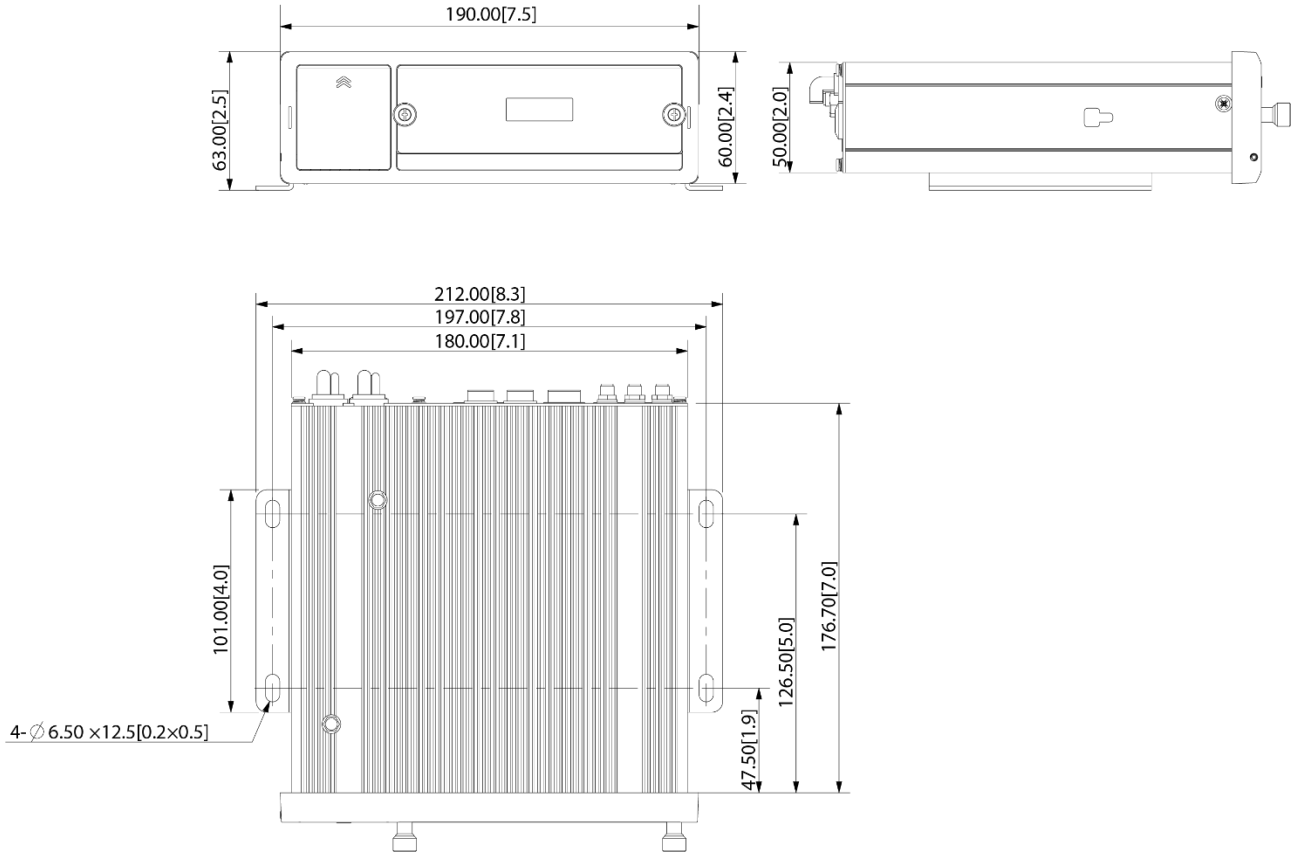


Figure 2-11 MNVR4208-I dibujo estructural y dimensional (Unidad: mm [pulgadas])

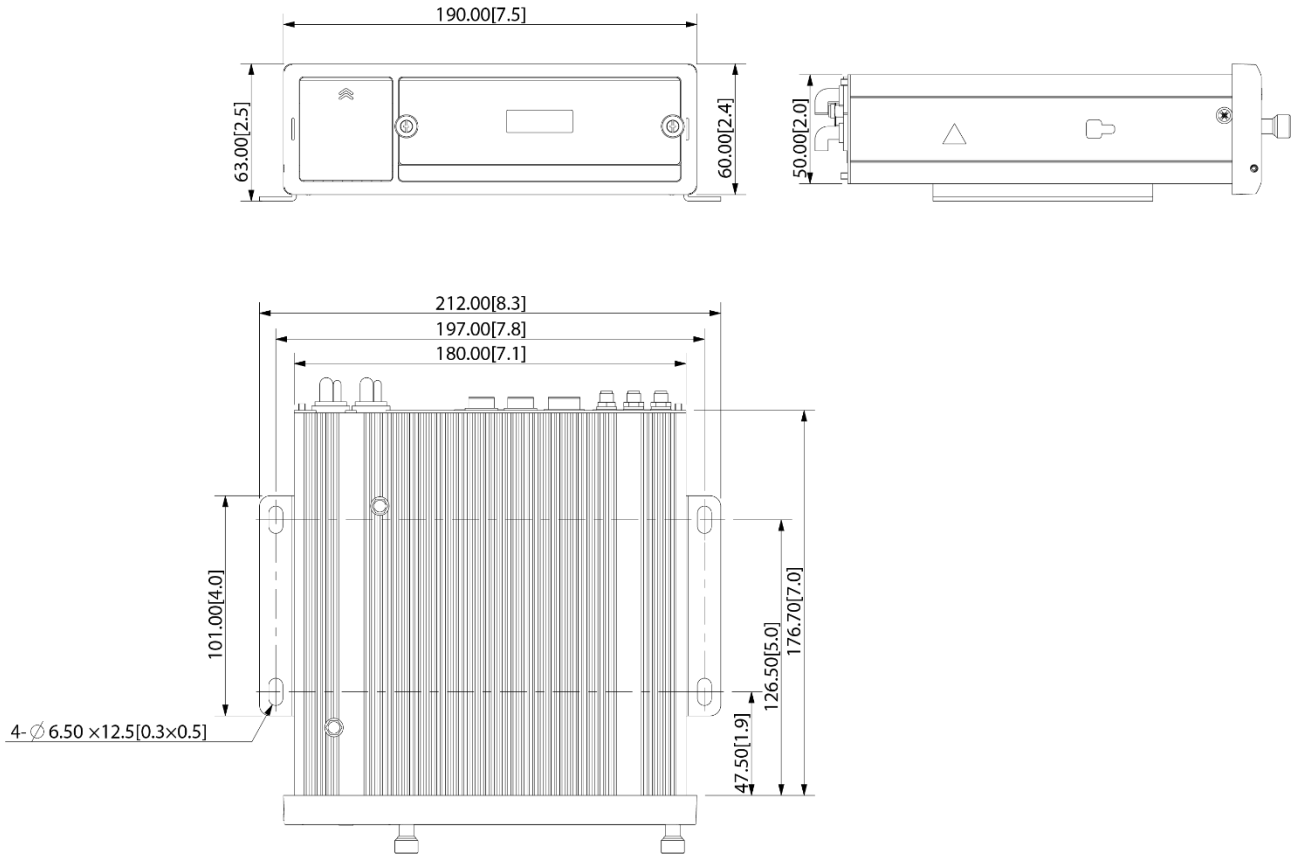
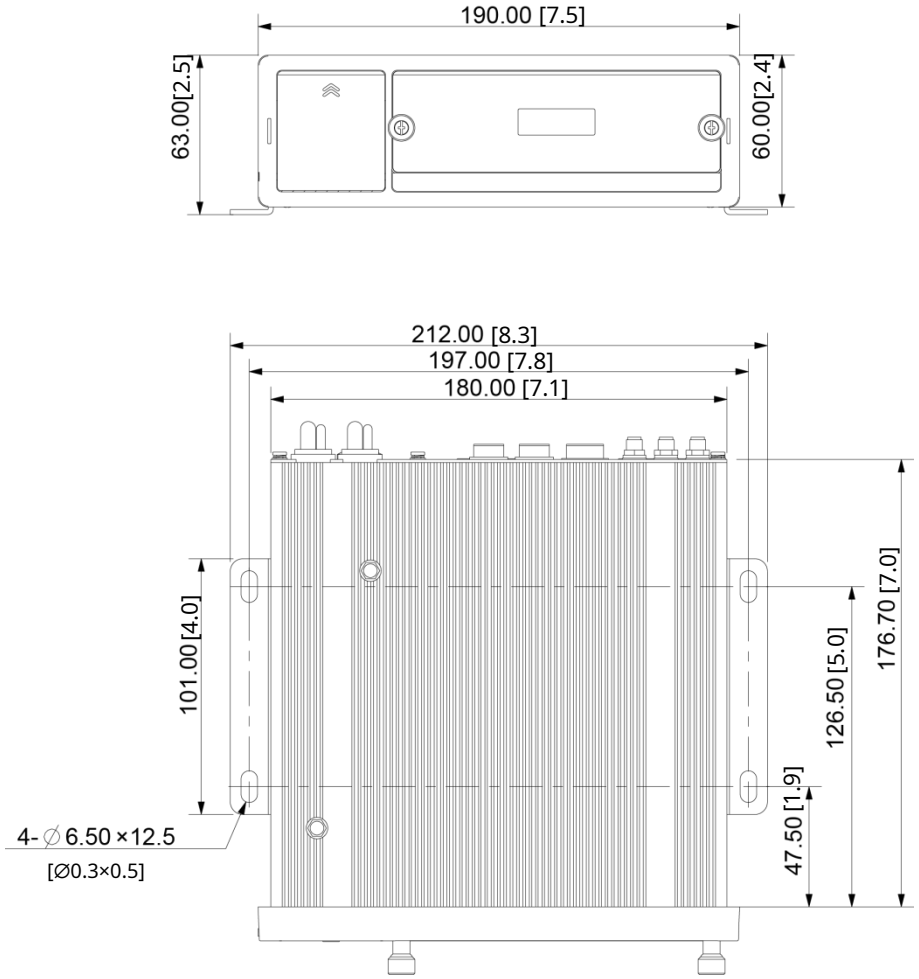


Figure 2-12 MNVR4104/4208-I Dibujo dimensional de instalación de orejetas (Unidad: mm [pulgadas])



2.3 Instalación

Cuando reciba el dispositivo, desembale la caja para verificar la apariencia y las estructuras del dispositivo, y luego instale la tarjeta SIM, la tarjeta SD y el disco duro.

- Antes de completar la instalación, asegúrese de que el dispositivo esté desconectado de la alimentación y no No conecte ni desconecte componentes cuando la alimentación esté conectada.
- Al instalar y retirar el disco duro, la cerradura electrónica del dispositivo debe estar en estado "desbloqueado". Una vez completada la instalación, la cerradura electrónica del dispositivo debe estar en estado "bloqueado" antes encendido del dispositivo.

2.3.1 Instalación de disco duro

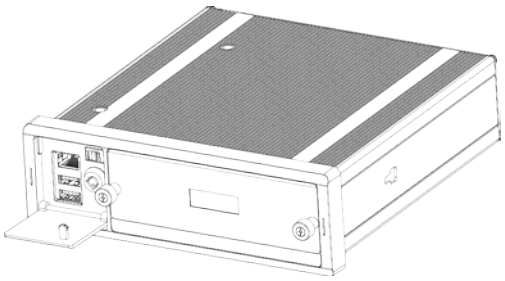
2.3.1.1 Serie MNVR4104-I

Los dispositivos de la serie MNVR4104-I solo admiten un disco duro.

Step 1 Presione suavemente la cubierta frontal izquierda. La cubierta frontal izquierda se abre automáticamente. Usa una llave

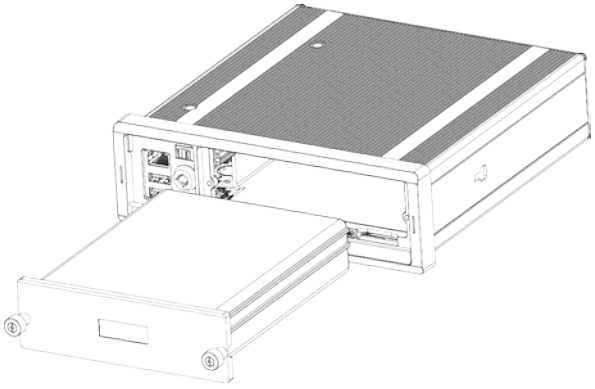
Step 2 particular para desbloquear la puerta.

Figure 2-13 Interruptor de bloqueo de puerta abierta (disco duro único).



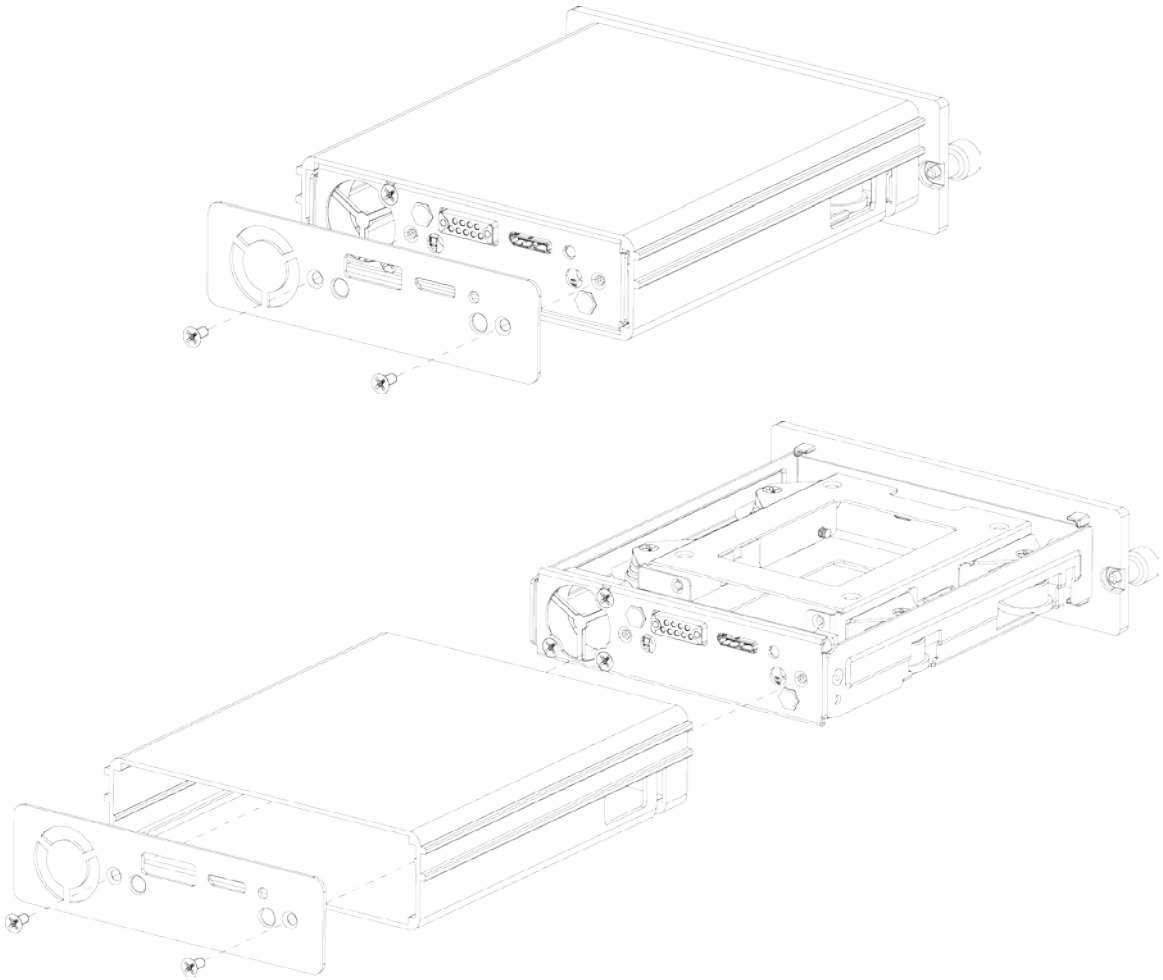
Step 3 Afloje los dos tornillos del panel frontal y extraiga el portaunidades de disco duro a lo largo del riel guía.

Figure 2-14 Saque el portaunidades de disco duro (HDD único).



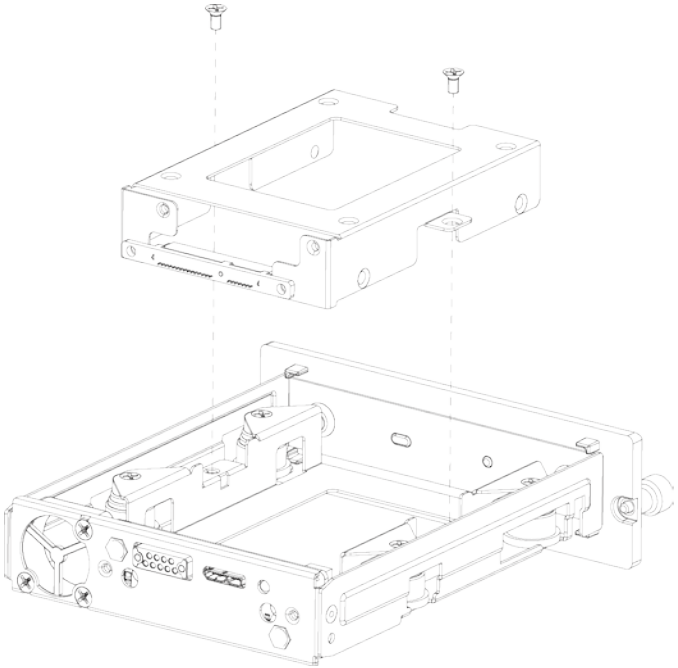
Step 4 Afloje dos tornillos en el panel posterior del portaunidades de disco duro, extraiga el panel posterior del portaunidades y retire la carcasa del portaunidades de disco duro.

Figure 2-15 Retire la cubierta del portaunidades de disco duro (disco duro único)



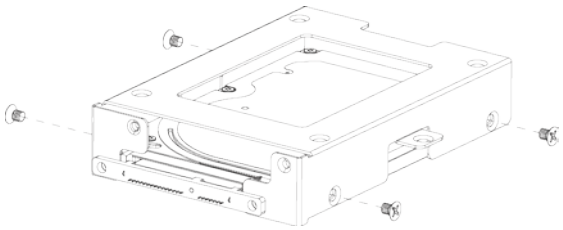
Step 5 Afloje los dos tornillos del soporte de HDD y retire el soporte.

Figure 2-16 Retire el soporte de HDD (HDD único)



Step 6 Utilice cuatro tornillos para fijar el disco duro y el soporte del disco duro, e instale el soporte del disco duro de nuevo en el dispositivo.

Figure 2-17 Instalación de HDD (HDD único)



Step 7 Instale la caja del portaunidades de disco duro en su lugar a lo largo de los rieles y luego fije el panel posterior de la caja de disco duro con dos tornillos.

Step 8 Vuelva a colocar el portaunidades de disco duro en el dispositivo, apriete dos tornillos y cierre la cerradura de la puerta.

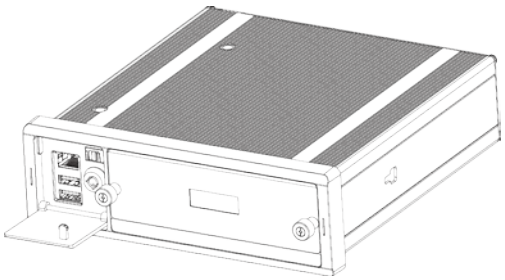
2.3.1.2 Serie MNVR4208-I

Los dispositivos de la serie MNVR4208-I admiten discos duros duales.

Step 1 Presione suavemente la cubierta frontal izquierda. La cubierta frontal izquierda se abre automáticamente. Usa una llave

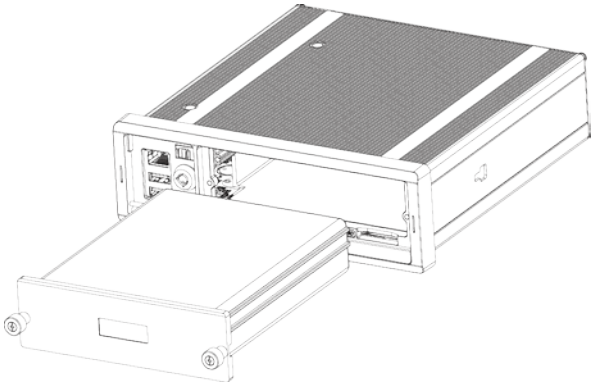
Step 2 particular para desbloquear la puerta.

Figure 2-18 Interruptor de bloqueo de puerta abierta (disco duro dual).



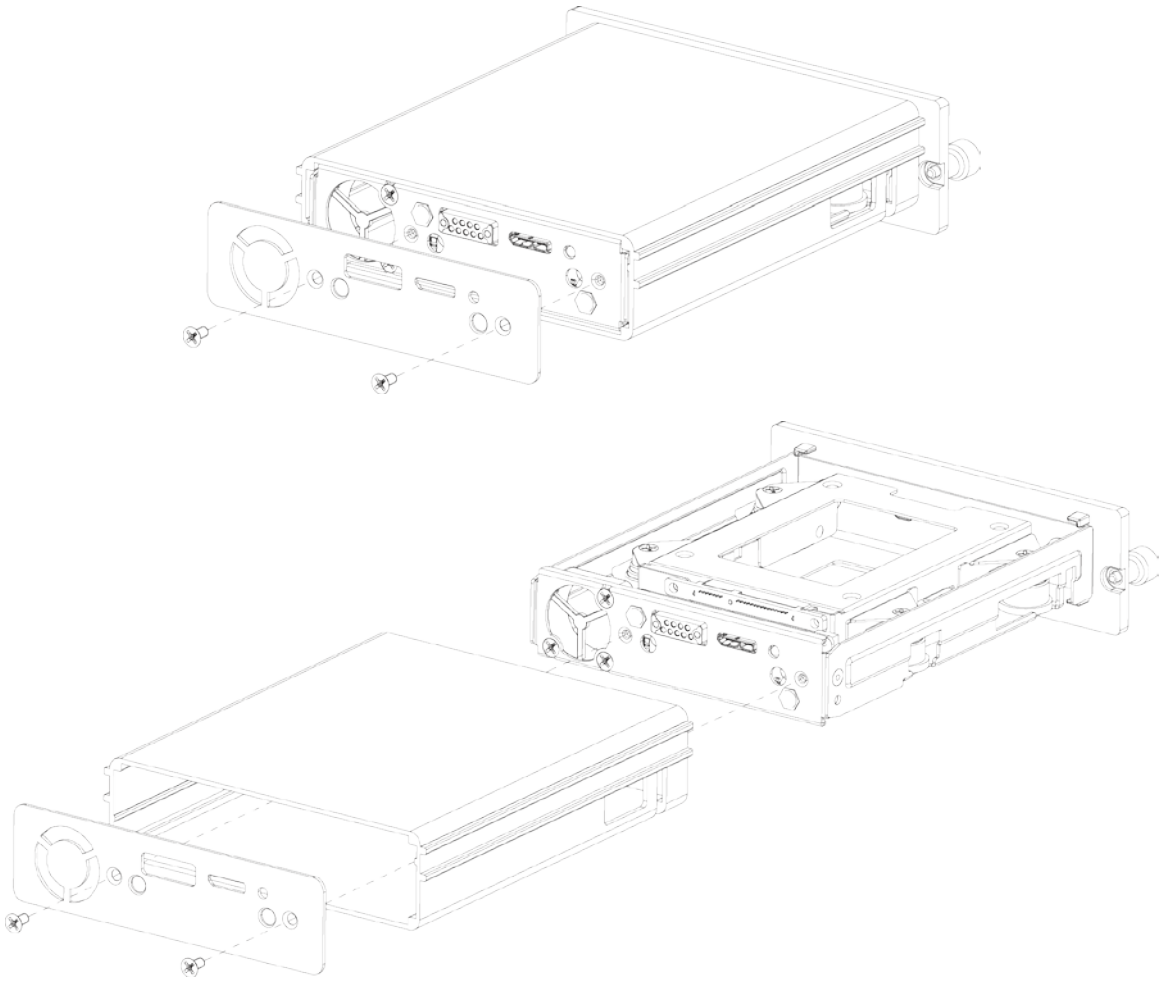
Step 3 Afloje los dos tornillos del panel frontal y extraiga el portaunidades de disco duro a lo largo del riel guía.

Figure 2-19 Saque el portaunidades de disco duro (disco duro dual).



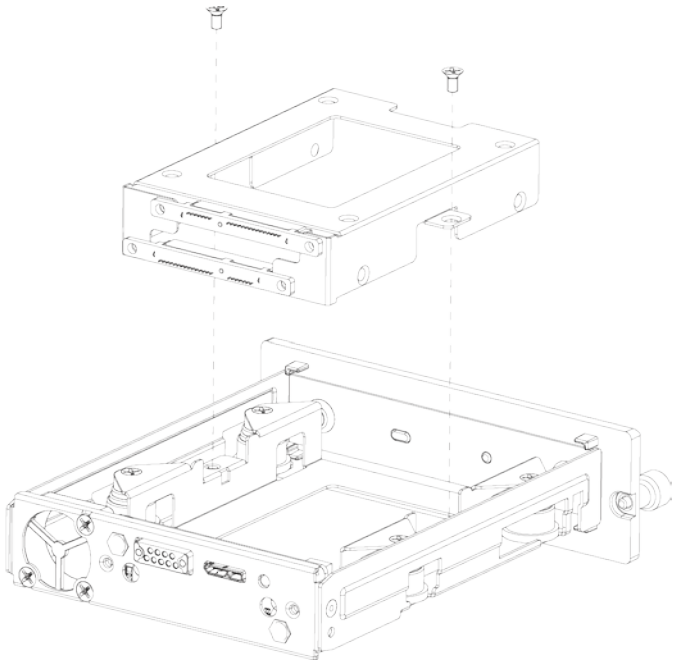
Step 4 Afloje dos tornillos en el panel posterior del portaunidades de disco duro, extraiga el panel posterior del portaunidades y retire la carcasa del portaunidades de disco duro.

Figure 2-20 Retire el portaunidades de disco duro (HDD duales)



Step 5 Afloje los dos tornillos del soporte de HDD y retire el soporte.

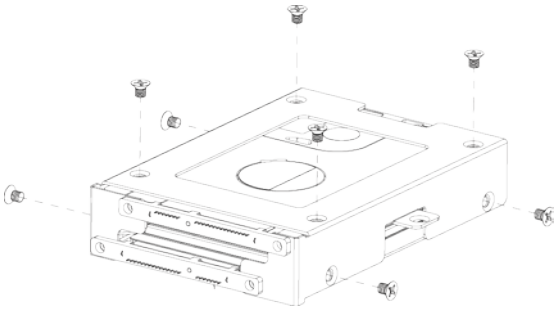
Figure 2-21 Retire el soporte de HDD (HDD duales)



Step 6 Utilice cuatro tornillos para fijar cada disco duro y el soporte del disco duro, e instale el soporte del disco duro de nuevo en el dispositivo.

Fije el HDD superior a la parte superior del soporte del HDD y el HDD inferior al costado del soporte del HDD.

Figure 2-22 Instalación de HDD (HDD duales)



Step 7 Instale la caja del portaunidades de disco duro en su lugar a lo largo de los rieles y luego fije el panel posterior de la caja de disco duro con dos tornillos.

Vuelva a colocar el portaunidades de disco duro en el dispositivo, apriete dos tornillos y cierre la cerradura de la puerta.

2.3.2 Instalación de la tarjeta SIM y la tarjeta SD

Por defecto, el Dispositivo se entrega sin la tarjeta SIM y la tarjeta SD. Instálalos como necesites.

- Para conectar el Dispositivo a Internet a través de una conexión de acceso telefónico, debe comprar e instalar una tarjeta SIM.
- Para almacenar datos de grabación, debe comprar e instalar una tarjeta SD.

Solo admite tarjeta SIM estándar.

condiciones previas

Asegúrese de que la fuente de alimentación esté desconectada. Si no es así, el dispositivo se apaga automáticamente cuando se abre el interruptor de bloqueo de la puerta.

Pasos

La ranura para tarjeta SIM y la ranura para tarjeta SD están dentro del dispositivo.

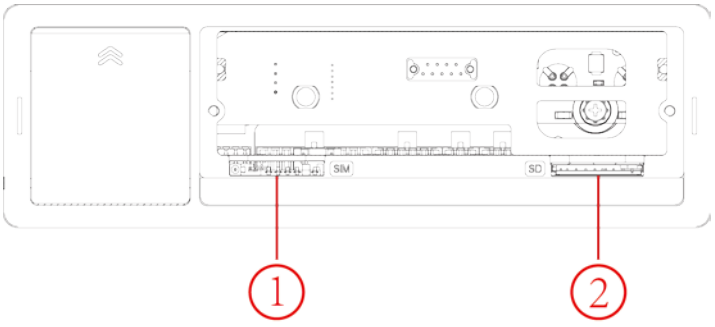
Step 1 Presione suavemente la cubierta frontal izquierda. La cubierta frontal izquierda se abre automáticamente. Usa una llave

Step 2 particular para desbloquear la puerta.

Step 3 Afloje los dos tornillos del panel frontal y extraiga el portaunidades de disco duro a lo largo del riel guía. Las posiciones de la ranura para tarjeta SIM y la ranura para tarjeta SD se muestran en la Figura 2-23.

Step 4 Inserte la tarjeta SD y la tarjeta SIM en la ranura para tarjetas con las marcas correspondientes.

Figure 2-23 Instalación de la tarjeta SIM y la tarjeta SD



En la Figura 2-23,①es la ranura para tarjeta SIM y②es la ranura para tarjeta SD.

Step 5 Vuelva a colocar el portaunidades de disco duro en el dispositivo, apriete dos tornillos y cierre la cerradura de la puerta.

2.3.3 Instalación de la antena

La antena del dispositivo se instala para conectar el dispositivo a la red y localizar la posición del vehículo.

2.3.3.1 Instalación de Antena de Red Móvil

Al instalar la antena adhesiva, asegúrese de que no haya ningún material metálico debajo del punto adhesivo.

Para la instalación de la antena de red móvil, consulte la Figura 2-24. Se recomienda colocar la antena plana verticalmente cerca del parabrisas (como en el panel de instrumentos o debajo del parabrisas) o ocultarla dentro del panel de instrumentos.

Figure 2-24 Instalación interior de Antena de Red Móvil

2.3.3.2 Instalación de Antena GPS

Los métodos de posicionamiento incluyen el posicionamiento GPS actualmente convencional, el posicionamiento Beidou, con la antena GPS correspondiente y la antena Beidou.

En este documento, la antena GPS se usa como ejemplo para ilustrar los pasos de instalación de las antenas de localización. El proceso de instalación de otra antena de localización es idéntico.

2.3.3.2.1 Instalación exterior

Step 1 Coloque la antena GPS en la parte delantera izquierda del techo. Consulte la Figura 2-25.

La antena está unida magnéticamente al techo del vehículo. Se puede aplicar pegamento a los cuatro lados de la antena para fijarla de manera más confiable.

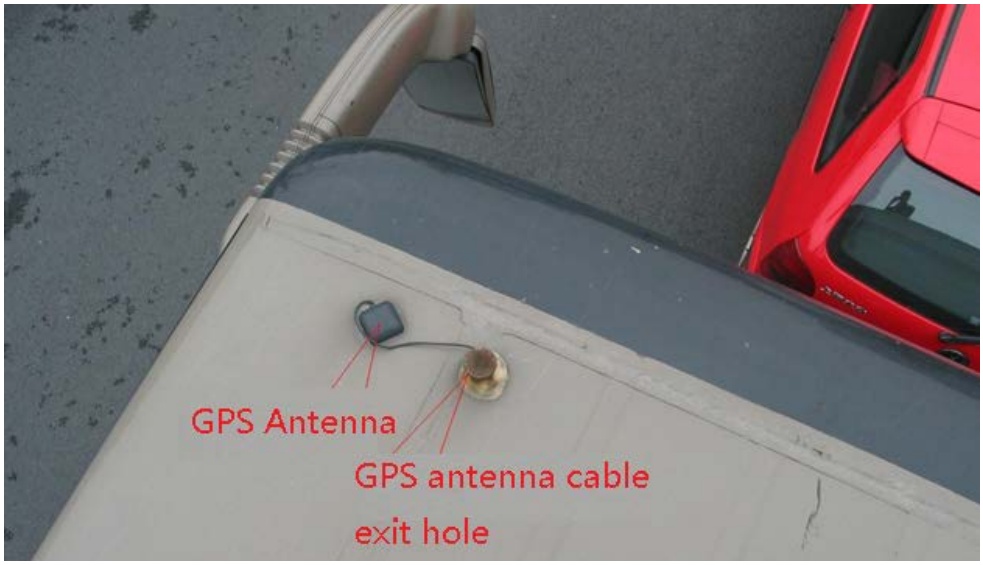
Para que la sensibilidad y la precisión del posicionamiento estén libres de interferencias, asegúrese de que haya ninguna fuente de interferencia eléctrica o electrónica de alta potencia (como un ventilador o un compresor de CA) u obstáculos dentro de 1 metro alrededor de la antena GPS.

Step 2 Inserte el cable de la antena GPS en el orificio del cable de la antena en el techo del vehículo y conéctelo al puerto de la antena GPS dentro del vehículo.

Los requisitos del orificio del cable de la antena GPS son los siguientes.

- El radio interior es de al menos 10 mm.
- Debe ser impermeable.
- Fácil de reemplazar y mantener la antena.

Figure 2-25 Instalación exterior



2.3.3.2.2 Instalación interior

Cuando esté limitada por los requisitos de impermeabilidad y cableado, la antena se puede instalar dentro del vehículo.

Para seleccionar el lugar de instalación, se recomienda colocar la antena horizontalmente en el tablero de instrumentos cerca del parabrisas y colocar el cable del GPS hacia arriba para mejorar la señal, como se muestra en la Figura 2-26.

Figure 2-26 Instalación interior

2.3.4 Reparación de la grabadora

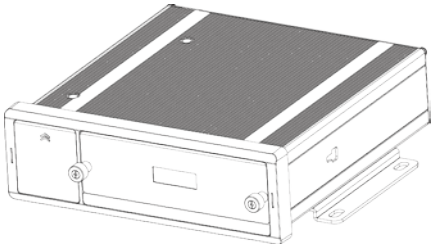
- Instale el dispositivo en el vehículo donde no se pueda ver desde el exterior. Evite los lugares con mucha temperatura o cerca del sistema de aire acondicionado. La alta temperatura acorta la vida del Dispositivo. Si ingresa al dispositivo, el agua de condensación del acondicionador de aire puede provocar un cortocircuito. o quemar el Dispositivo.
- Encienda el dispositivo solo después de que todos los dispositivos externos estén conectados correctamente al dispositivo.

Step 1 Instale orejetas en el dispositivo.

1) Coloque las arandelas en el tornillo de fijación.

2) Use tornillos de fijación con arandelas, monte las orejetas en la parte inferior del dispositivo respectivamente y apriete las orejetas.

Figure 2-27 Instale las lengüetas en el dispositivo.

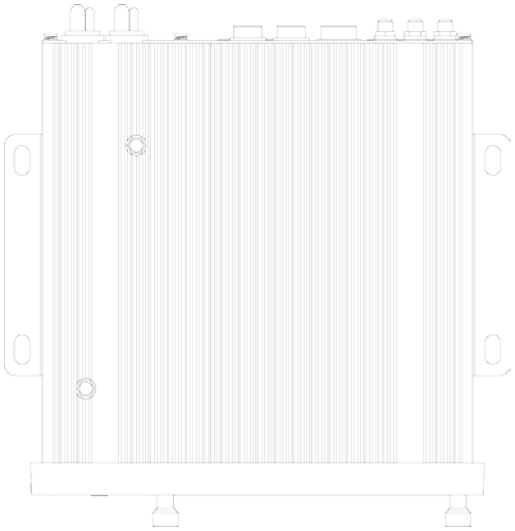


Step 2 Fije el dispositivo en el vehículo.

1) Perfore agujeros en el vehículo de acuerdo con el dibujo dimensional de instalación.

2) Utilice tornillos para fijar el Dispositivo al vehículo.

Figure 2-28 Fije el dispositivo en el vehículo.



Step 3 Conecte los cables al dispositivo.

- Compruebe el voltaje del acumulador. El voltaje de trabajo de este dispositivo varía de 6V a 36V. Para asegurarse de que el dispositivo funcione de manera estable, obtenga directamente la fuente de alimentación del acumulador.
- Al instalar los cables básicos, no utilice una fuerza excesiva para tirar de los cables de control.

2.3.5 Conexión a cables de alimentación

- Antes de conectar el cable de alimentación, confirme si el voltaje de entrada está entre 6 V CC y 36 V CC. Si está fuera del rango, dañará el dispositivo.
- Asegúrese de que los polos positivo y negativo de la alimentación estén conectados correctamente. Si no, el dispositivo puede dañarse.
- El diámetro del cable de alimentación debe ser superior a 1,0 mm.2. Utilice cables de alimentación recomendado por nuestra empresa.
- Al conectar los cables al dispositivo, asegúrese de que el interruptor de alimentación principal del vehículo se apaga y la llave del vehículo se coloca en el estado apagado.

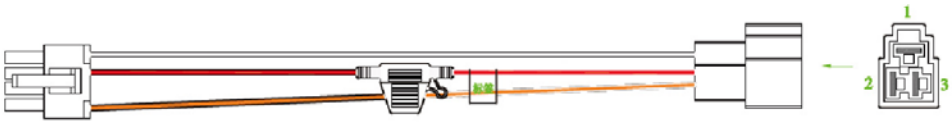
2.3.5.1 Introducción del cable de alimentación

Para el cable de alimentación del dispositivo, consulte la Figura 2-29.

Conecte un extremo del cable de alimentación al puerto de alimentación del dispositivo (el puerto izquierdo en la figura) o utilice directamente el cable de alimentación del dispositivo. Conecte el otro extremo a la batería del vehículo (el puerto derecho en la figura). El rojo con fusible es el polo positivo de la corriente (vida normal). El negro es el cable de tierra. La naranja es la señal ACC (Key live).

Solo se pueden usar directamente algunos dispositivos con el cable de alimentación conectado, sujeto a la situación real.

Figure 2-29 Cable de energía



2.3.5.2 Obtener modos de conexión del interruptor de alimentación principal

Para asegurar la correcta conexión de los cables, es necesario obtener el modo de conexión del interruptor de alimentación principal a través de tres métodos (¿el interruptor de alimentación principal está conectado al polo positivo o negativo de la batería?).

- Solicite al fabricante del vehículo los modos de conexión del interruptor de alimentación principal del vehículo.
- Mida con un multímetro: desconecte el interruptor principal, luego mida el voltaje entre la carrocería del vehículo y el polo positivo de la batería del vehículo. Si el voltaje es de 12V o 24V, significa que el interruptor principal desconecta el polo positivo. Si el voltaje es 0V, entonces el interruptor principal desconecta el polo negativo.
- Inspección visual: si el cable del interruptor cerca de la batería del vehículo está conectado al polo positivo o al polo negativo.

2.3.5.3 Operación de conexión

El registrador de conducción debe estar conectado al cable de tierra. Señal ACC y electricidad constante.

Step 1 Habilite el interruptor de alimentación principal del vehículo, coloque la llave en el estado APAGADO y luego mida la electricidad viva normal del vehículo.

Use un multímetro para medir el voltaje en el fusible cambiando al rango de voltaje de CC. Cuando el multímetro detecta voltaje, mide la electricidad viva normal en el vehículo. Generalmente, el voltaje es de 24 V CC para vehículos grandes y de 12 V CC para vehículos pequeños. Sin embargo, esto está sujeto a datos reales.

Step 2 Cuando la llave del vehículo se coloca en el estado ACC o en el estado ON, se mide la señal ACC del vehículo.

Use un multímetro para medir el voltaje en el fusible cambiando al rango de voltaje de CC. Cuando el multímetro detecte voltaje, retire la llave del automóvil. Si el voltaje cambia a 0V, significa que la señal medida es ACC en el automóvil.

Step 3 Apague el interruptor de alimentación principal del vehículo y coloque la llave en el estado APAGADO. Conecte el cable de

Step 4 alimentación de acuerdo con el modo de instalación del interruptor de alimentación principal. Consulte la Figura 2-30 y la Figura 2-31.

- Antes de conectar con el cable de alimentación, seleccione el fusible adecuado. Se recomienda un fusible de 7,5 A.
- Los polos positivo y negativo de la batería deben estar equipados con protectores dispositivos como fusibles.
- Para vehículos donde el interruptor principal de energía está instalado en el cátodo del acumulador, se necesita instalación de aislamiento.

Figure 2-30 Interruptor de alimentación principal del vehículo instalado en el polo positivo de la batería del vehículo

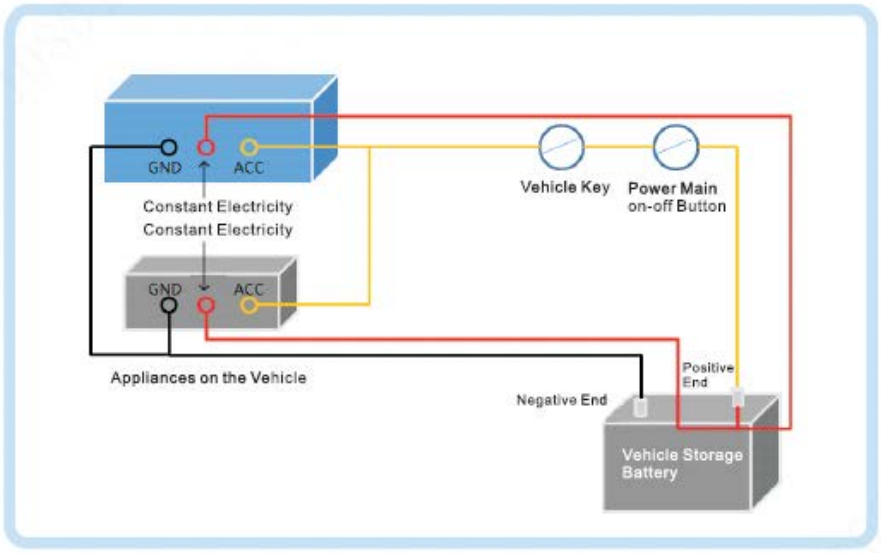
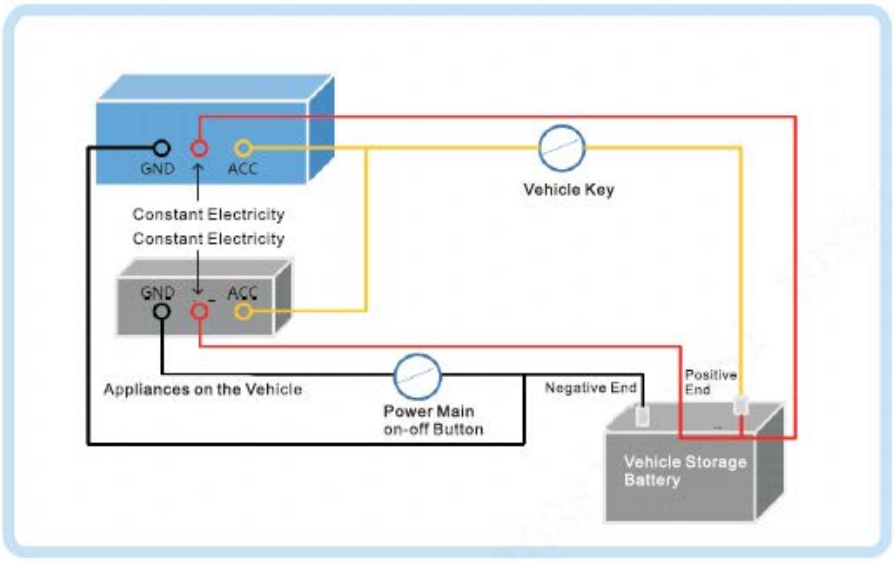


Figure 2-31 Interruptor principal del vehículo instalado en el polo negativo de la batería del vehículo



2.4 Conexión de entrada y salida de audio y video

Esta sección lo ayuda a comprender la conexión de entrada y salida de audio y video cuando necesita usar esta función.

2.4.1 Acerca de la entrada de audio y video

Los datos de video y audio se ingresan a través del puerto de red RJ45. Al conectar el cable, se debe instalar el conector a prueba de agua.

Step 1 Saque el conector a prueba de agua de la caja de accesorios y conecte la junta en la dirección de la flecha en el conector a prueba de agua. Consulte la Figura 2-32.

Figure 2-32 Instalación de juntas

Step 2 Pase el cable de red (sin puerto Ethernet) a través de la parte principal del conector a prueba de agua, la junta y la tapa, y luego haga el enchufe Ethernet. Consulte la Figura 2-33.

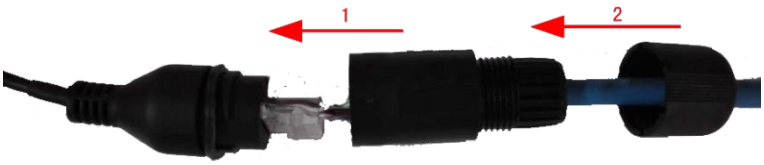
Figure 2-33 Cableado y fabricación de enchufes Ethernet

Step 3 Conecte la junta de goma al puerto Ethernet. Consulte la Figura 2-34.

Figure 2-34 Instalación de juntas de goma

Step 4 Inserte el enchufe Ethernet en el puerto Ethernet y luego apriete el conector a prueba de agua. Consulte la Figura 2-35.

Figure 2-35 Fijación de conector a prueba de agua



Consulte la Figura 2-36 para ver el conector a prueba de agua conectado.

Figure 2-36 Conexión completada

2.4.2 Acerca de la salida de audio y video

Salida de vídeo

El dispositivo se proporciona con un CVBS (PAL/NTSC 1.0V$_{PÁGINAS}$, 75Ω) y puerto VGA, puerto HDMI y admite la salida simultánea de estos dos puertos.

Lea atentamente el siguiente contenido antes de usar la computadora en lugar del monitor.

- Para la salida VGA, debe preparar un cable adaptador VGA para conectarlo a la computadora. Para
- prolongar la vida útil del dispositivo, no lo deje funcionando durante mucho tiempo.
- La desmagnetización regular ayuda a que el monitor funcione correctamente.
- Manténgase alejado de dispositivos con fuertes interferencias electromagnéticas.

Salida de audio

El parámetro de la señal de salida de audio es mayor que 200mv 1KΩ. El puerto de salida de audio se puede conectar directamente a la pantalla con función de audio en el vehículo o altavoz activo, y el puerto también puede controlar otros dispositivos de salida de sonido a través del amplificador.

2.5 Conexión de entrada y salida de alarma

Antes de usar la función de alarma, conozca el método de conexión del puerto de entrada y salida de alarma.

Entrada de alarma

- El puerto de entrada de alarma admite señal de alarma desde tierra y dispositivo de voltaje de 12V-24V. Si el
- dispositivo de alarma está conectado al dispositivo y a otros dispositivos, utilice un relé para el aislamiento.

Salida de alarma

El puerto de salida de alarma no se puede conectar a una carga de alta potencia (menos de 1A). Al construir el circuito de salida, se debe evitar que la corriente excesiva cause daños al relé. Utilice el contactor para aislamiento al aplicar cargas de alta potencia.

Conexión del decodificador PTZ

- El terreno común debe estar preparado para el decodificador PTZ y el dispositivo; de lo contrario, es posible que el voltaje de modo común no pueda controlar el PTZ. Se recomienda utilizar par trenzado blindado, y la capa de blindaje se puede utilizar para tierra común.
- Evite la interferencia de la energía de alto voltaje, realice un cableado razonable y tome medidas para la protección de la iluminación.
- Conecte en paralelo una resistencia de 120 Ω para reducir la reflexión y garantizar una alta calidad de la señal.
- La línea A y la línea B del dispositivo RS-485 no pueden conectarse a otro dispositivo de salida RS-485 en
- paralelo. El voltaje entre la línea A y la línea B debe ser inferior a 5V.

Conexión a tierra del dispositivo frontal

La mala conexión a tierra puede provocar daños en el chip.

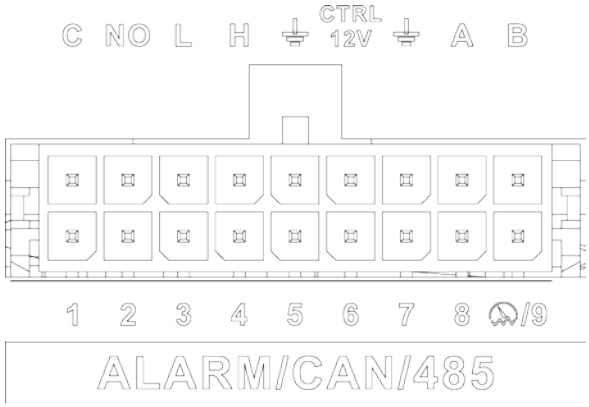
Sin restricción para los tipos de entrada de alarma

La entrada de alarma puede estar Siempre encendida o Siempre cerrada.

2.5.1 Tipo de entrada de alarma

Describe los puertos de entrada y salida de alarma.

Figure 2-37 Puerto de entrada/salida de alarma

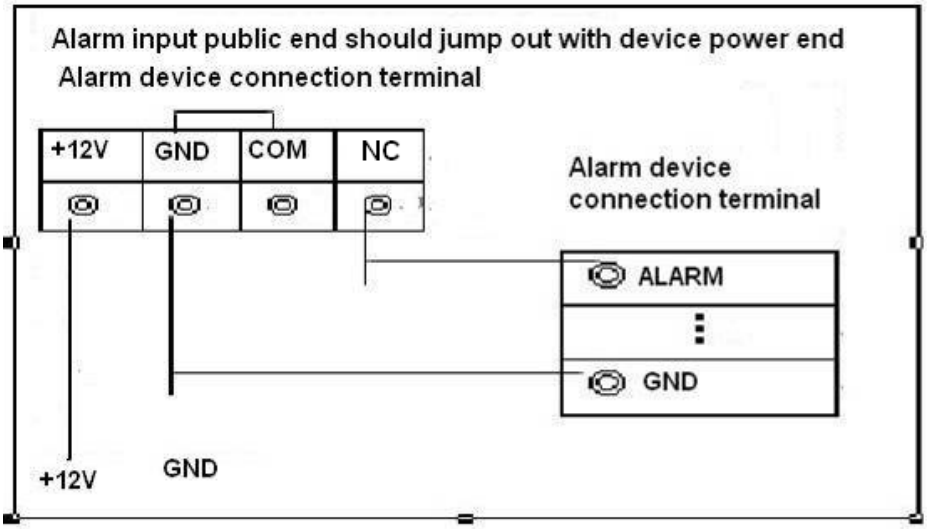


Nombre	Función
1–9	Entrada de alarma 1~9, donde 1~8 son entrada de alarma local, 9 admite impulso.
C NO	Envía una señal de alarma al dispositivo de alarma. - NO: representa el tipo normalmente abierto. C: - Puerto de salida de alarma común.
L, A	Puerto CAN
⏚	Línea de tierra
CONTROL 12V	Salida de 12 V/0,75 A con control de interruptor
un, b	Puerto RS-485 que se conecta a domo de velocidad con función PTZ.

2.5.2 Puerto de entrada de alarma

- Se admiten tanto NO como NC.
- El GND del detector de alarma está en conexión paralela con COM (la fuente de alimentación del detector de alarma debe ser de una fuente de alimentación externa). Consulte la Figura 2-38.
- El GND del detector de alarma está en conexión paralela con el GND del dispositivo.
- Conecte el puerto NC del detector de alarma al puerto de entrada de alarma (ALARM).
- Al suministrar energía desde una fuente de alimentación externa al dispositivo de alarma, el dispositivo de alarma debe tener una conexión a tierra común con el dispositivo.

Figure 2-38 Ilustración de entrada de alarma cerrada normal



3 configuraciones básicas

Esta grabadora se puede operar siguiendo las instrucciones en la interfaz local o en la interfaz web. Esta sección presenta las instrucciones de la interfaz web. La interfaz local es similar y no se elaborará aquí.

Se admiten navegadores como Safari, Firefox e IE.

3.1 Arrancando la grabadora

- Antes de iniciar el registrador, verifique si el voltaje de entrada coincide con el voltaje nominal del registrador.
- Consulte el estándar internacional para ofrecer la entrada de energía (entrada de energía que es con energía estable valor y menos interferencia) para garantizar que la grabadora funcione de manera estable y prolongue su vida útil.
- En el primer encendido, la grabadora necesita conexión al ACC para funcionar según lo previsto.

Gire la tecla Grabadora para  y gire la llave del vehículo a la posición ACC. El indicador de encendido está encendido, y la grabadora está lista para trabajar.

Para el primer arranque o después de restaurar la configuración predeterminada de fábrica, la interfaz de inicialización es que se muestra en la pantalla. Siga las instrucciones en pantalla para inicializar su grabadora antes de usarla.

3.2 Inicializando grabadora

Cuando abre la grabadora por primera vez o ha permitido que su sistema recupere la configuración de fábrica, debe inicializar la grabadora. Solo después de eso podrá operar y configurar su grabadora.

Preparación

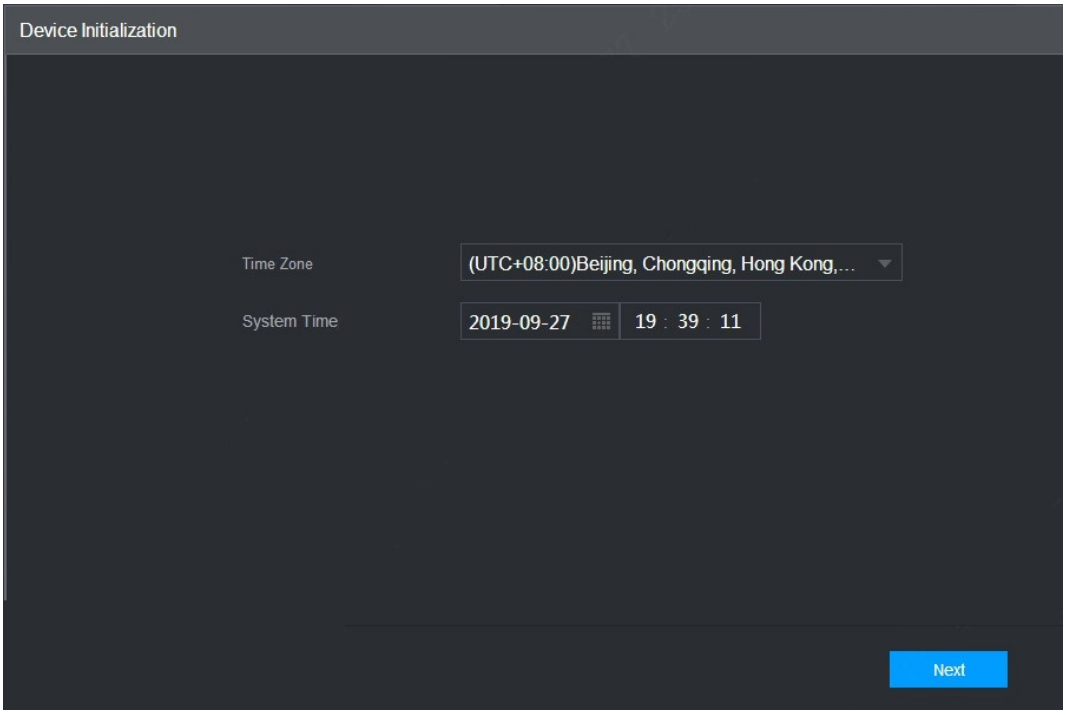
Asegúrese de que la conexión de red sea correcta entre la PC y la grabadora.

Procedimiento

Step 1 Abra el navegador, ingrese la dirección IP de la grabadora (la dirección IP predeterminada es 192.168.1.108) y luego presione Entrar.

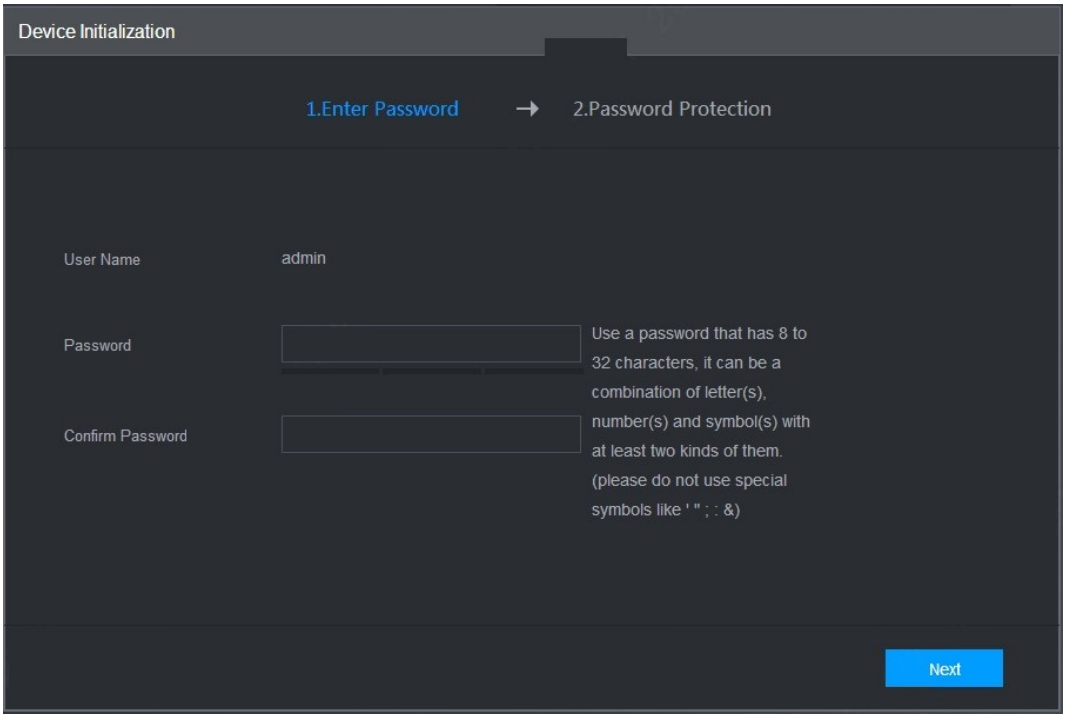
los**Inicialización del dispositivo**se muestra la interfaz.

Figure 3-1 Interfaz de inicialización del dispositivo



Step 2 Seleccione**Zona horaria**y**Hora del sistema**. Luego haga clic**próximo**.

Figure 3-2 Protección de contraseña

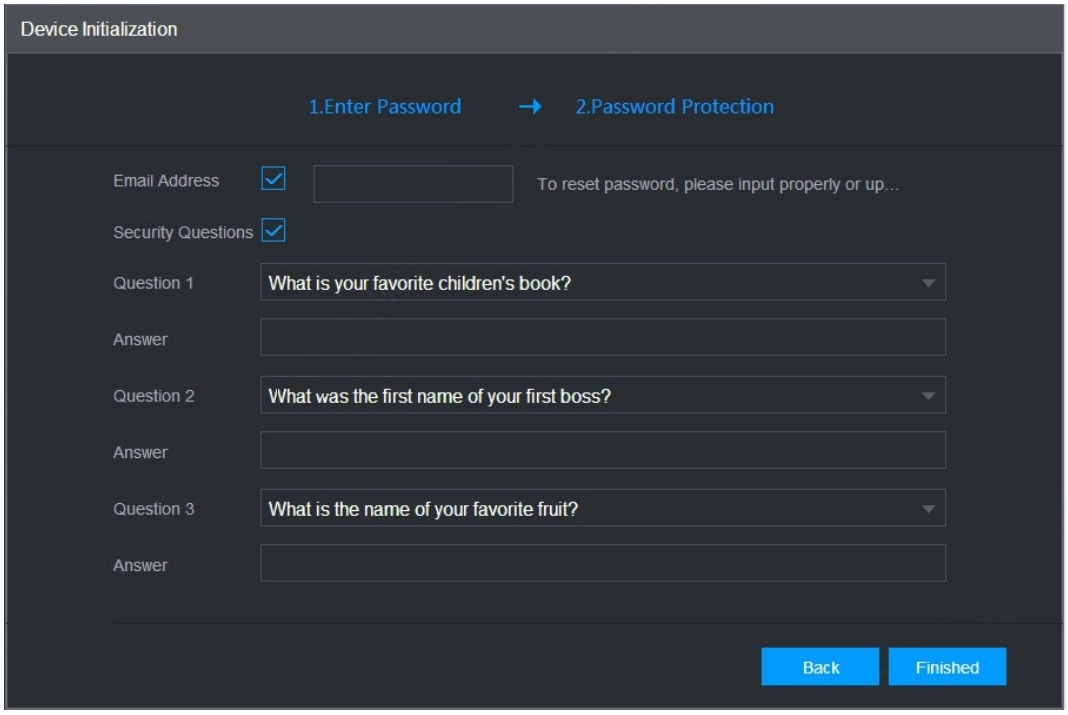


Step 3 Ingresa tu contraseña y vuelve a ingresarla para confirmarla. Luego haga clic**próximo**.

Luego se muestra una interfaz que le permite completar la configuración de protección de contraseña. Consulte la Figura 3-3.

Se recomienda utilizar una contraseña segura. La contraseña debe constar de 8 a 32 caracteres que no estén en blanco y que contengan al menos dos tipos de caracteres entre mayúsculas, minúsculas caso, número y carácter especial (excepto ' " ; : &).

Figure 3-3 Configuración de protección de contraseña



Step 4 Se recomienda completar la dirección de correo electrónico y responder las preguntas de protección de contraseña.

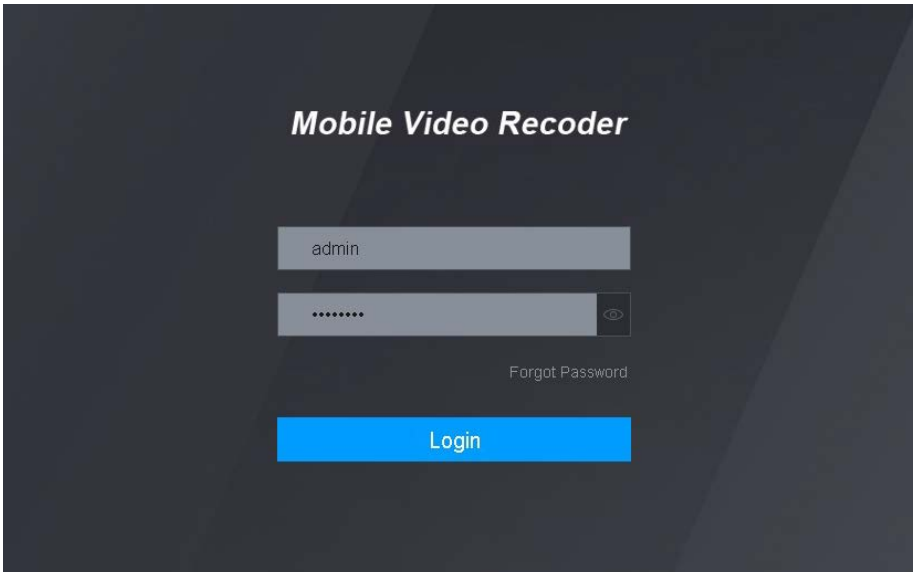
Step 5 Haga clic en Finalizado.

3.3 Iniciar sesión en Grabadora

Puede iniciar sesión y luego configurar la grabadora.

Step 1 Abra el navegador, ingrese la dirección IP de la grabadora y luego presione Enter. los **Acceso**aparece la interfaz. Consulte la Figura 3-4.

Figure 3-4 Interfaz de inicio de sesión web



Step 2 Ingrese el nombre de usuario y la contraseña, y haga clic en Iniciar sesión. Se muestra la interfaz web.

Hacer clic**Salida**para cerrar sesión

- Instale el complemento según lo solicite el sistema para el inicio de sesión inicial.
- Para**administración**cuenta, si olvida la contraseña, haga clic en Olvidé la contraseña para recuperar la clave. Para obtener más información, consulte "5.9.3 Restablecimiento de la contraseña".

3.4 Configuración de la dirección IP

Conecte la grabadora a la red y asegúrese de que la grabadora pueda comunicarse con otras grabadoras en el diagrama de red.

Preparación

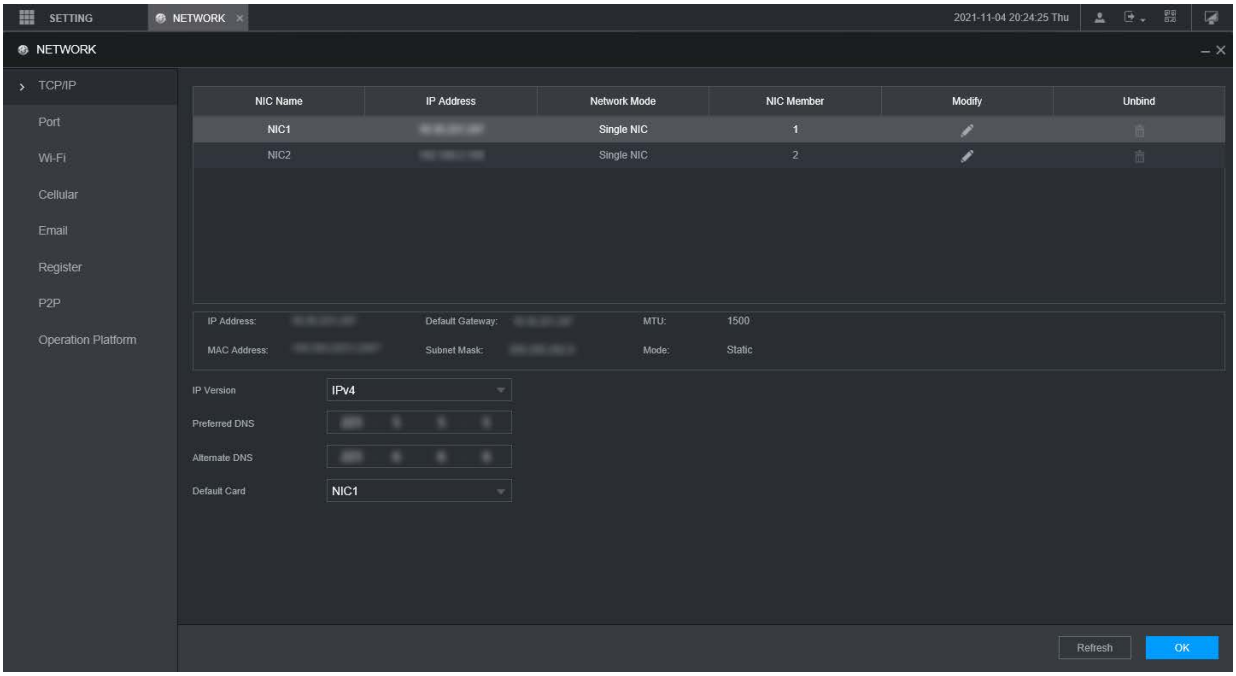
Asegúrese de que la grabadora esté conectada a la red correctamente.

Procedimiento

Step 1 Haga clic en CONFIGURACIÓN > RED > TCP/IP.

los**TCP/IP**se muestra la interfaz. Consulte la Figura 3-5.

Figure 3-5 TCP/IP



Step 2 Configure los parámetros del puerto serie. Consulte la Tabla 3-1.

Tabla 3-1 Configuración de red

Parámetro	Descripción
Versión IP	Hacer clic**IPv4**o**IPv6**. Ambas versiones son compatibles. Para la versión IPv6, en el**dirección IP**caja,**Puerta**caja,**DNS preferido**caja, y **DNS alternativo**casilla, ingrese 128 bits y no puede estar en blanco.
Dirección MAC	La dirección MAC del host no se puede modificar.

DHCP	Obtiene la dirección IP automáticamente. Con DHCP activado,**Dirección IP**,**Máscara de subred** y **Puerta de enlace predeterminada**no se puede configurar. Puede comprobar la dirección IP actual tanto si el DHCP tiene efecto como si no.
dirección IP	De acuerdo con su plan de red, ingrese la dirección IP modificada, la puerta de enlace y la máscara de subred. La dirección IP y la puerta de enlace deben estar en el mismo segmento de red.
Máscara de subred	
Defecto puerta	
DNS preferido	Dirección IP del DNS preferido
DNS alternativo	Dirección IP del DNS alternativo

Step 3 Hacer clic**OK**.

3.5 Configuración de ajustes generales

Puede configurar los ajustes básicos, incluidos los ajustes de fecha y hora.

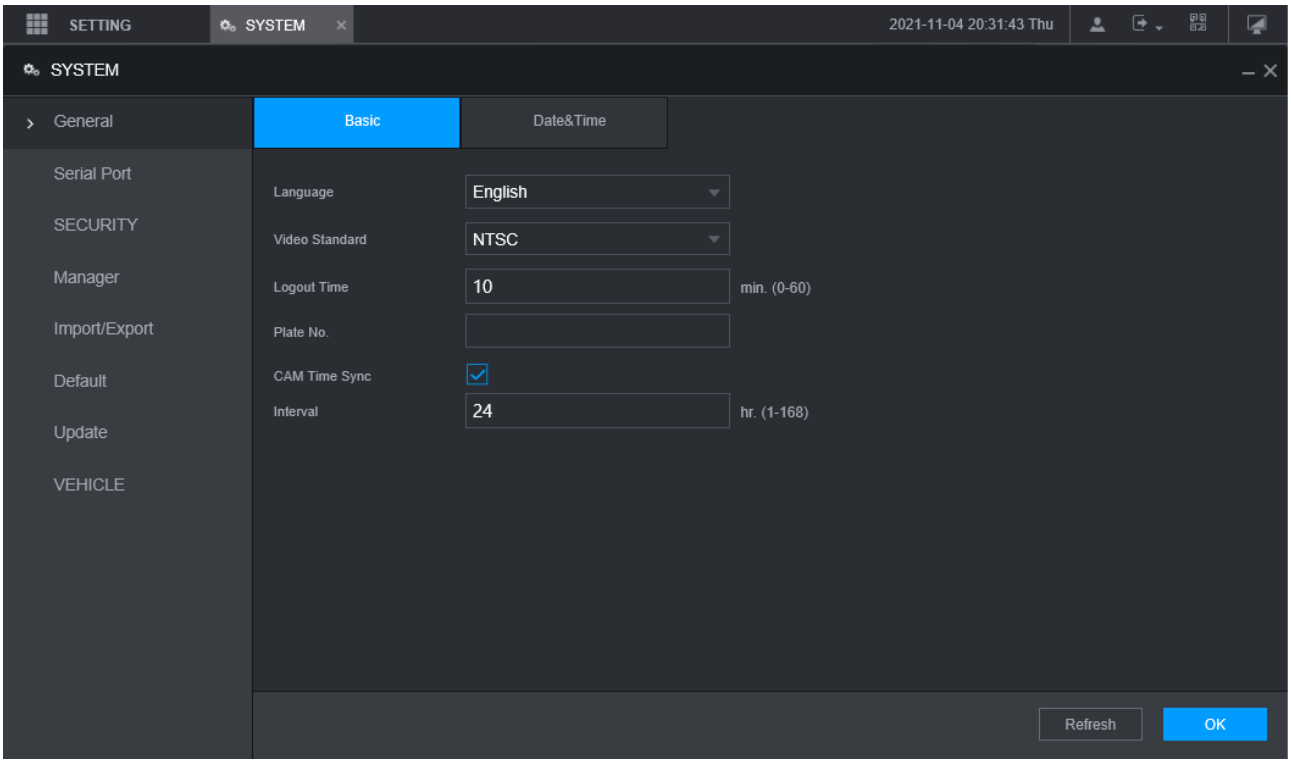
3.5.1 Configuración de información general

Configure la información general de la grabadora, incluida la estrategia de grabación de video cuando el disco está lleno, la duración de la grabación, la duración del menú en espera, la matrícula y más.

Step 1 Haga clic en CONFIGURACIÓN > SISTEMA > BÁSICO.

los**Básico**se muestra la interfaz. Consulte la Figura 3-6.

Figure 3-6 Básico



Step 2 Configure más ajustes.

Tabla 3-2 Descripción de los parámetros de configuración general

Parámetro	Descripción
Idioma	Seleccione un idioma para el sistema de grabadora.
Estándar de vídeo	Muestra el estándar de codificación de video.
Hora de cierre de sesión	Configure el tiempo de 0 min a 60 min.
No. de placa	Ingrese el número de placa del vehículo donde se encuentra el Registrador.
Sincronización de tiempo CAM	Puede hacer clic en el**Sincronización de tiempo CAM**marque la casilla e ingrese el intervalo para la sincronización de la cámara con la grabadora.

Step 3 Hacer clic**OK**.

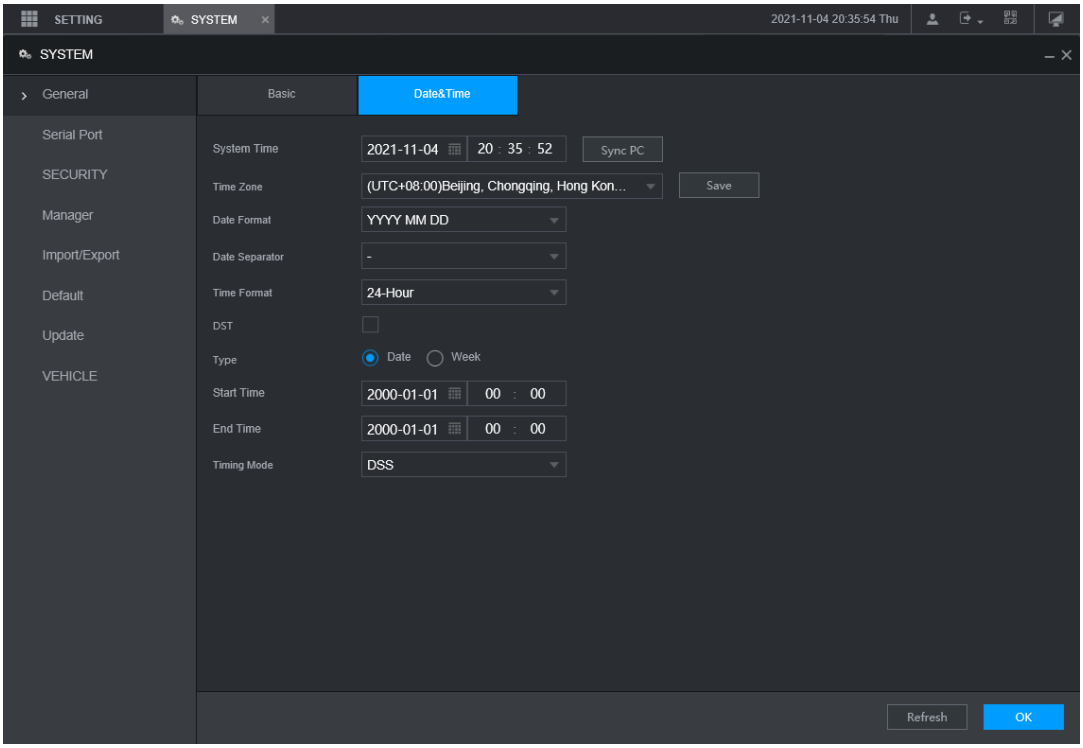
3.5.2 Configuración de fecha y hora

Puede configurar ajustes como el formato de fecha, el formato de hora y el modo de temporización.

Step 1 Haga clic en CONFIGURACIÓN > SISTEMA > BÁSICO > Fecha y hora. los

Fecha y horase muestra la interfaz. Consulte la Figura 3-7.

Figure 3-7 Configuración de fecha y hora



Step 2 Configure los parámetros del puerto serie. Consulte la Tabla 3-3.

Tabla 3-3 Descripción de los parámetros de configuración de fecha y hora

Parámetro	Descripción
Formato de fecha	Seleccione un formato de fecha.
Formato de tiempo	Seleccione un formato de hora.
Zona horaria	En el**Modo de temporización**lista, si**GPS**o**NTP**está seleccionado, configure este parámetro. Configure la zona horaria en la que se encuentra la grabadora.
Hora del sistema	Muestra la fecha y hora actual del sistema.
Sincronizar PC	Hacer clic**Sincronizar PC**para sincronizar la hora del sistema con la PC desde donde inicia sesión en la interfaz web.
horario de verano Tipo de horario de verano	El horario de verano se aplica en algunos países o regiones. Selecciona el**horario de verano**casilla de verificación si se aplica donde se encuentra el registrador

Hora de inicio Hora de finalización	1. Haga clic en el**horario de verano**casilla de verificación 2. De acuerdo con las normas locales, configure el tipo, la hora de inicio y la hora de finalización del horario de verano.
Momento Modo	Seleccione un modo de temporización, incluidos DSS, GPS y NTP. La selección predeterminada es NTP ● **DSS**: La hora del sistema se sincroniza con la plataforma DSS. ● **GPS**: La hora del sistema se sincroniza con el satélite. ● **NTP**: La hora del sistema se sincroniza con el servidor NTP que configuró.
Servidor Dirección Manual Actualizar Puerto Intervalo	En el**Modo de temporización**lista, si**NTP**está seleccionado, configure este parámetro. Después de configurar el servidor NTP, la grabadora sincroniza la hora con el servidor NTP. 1. En el**Modo de temporización**lista, seleccione**NTP**para habilitar la función de temporización NTP. 2. Configurar parámetros. - Dirección del servidor: Introduzca la dirección IP del servidor NTP. - Actualización manual: haga clic en**Actualización manual**para sincronizar la hora de la grabadora con el servidor NTP. - Puerto: el sistema solo admite el protocolo TCP y la configuración predeterminada es 123. - Intervalo: Ingrese el intervalo en el que desea que la grabadora sincronice la hora con el servidor NTP. El valor máximo es 65535 minutos.

Step 3 Hacer clic**OK**.

3.6 Configuración de grabadoras remotas

Esta sección describe cómo agregar cámaras a los canales. Conecte el IPC al puerto Ethernet en el panel posterior de la grabadora. Puede usar un soporte o una correa de amarre para fijar el puerto.

3.6.1 Inicialización de la grabadora remota

Solo se puede agregar la grabadora remota inicializada. Si la grabadora remota que desea agregar se ha inicializado, ignore esta sección.

Preparación

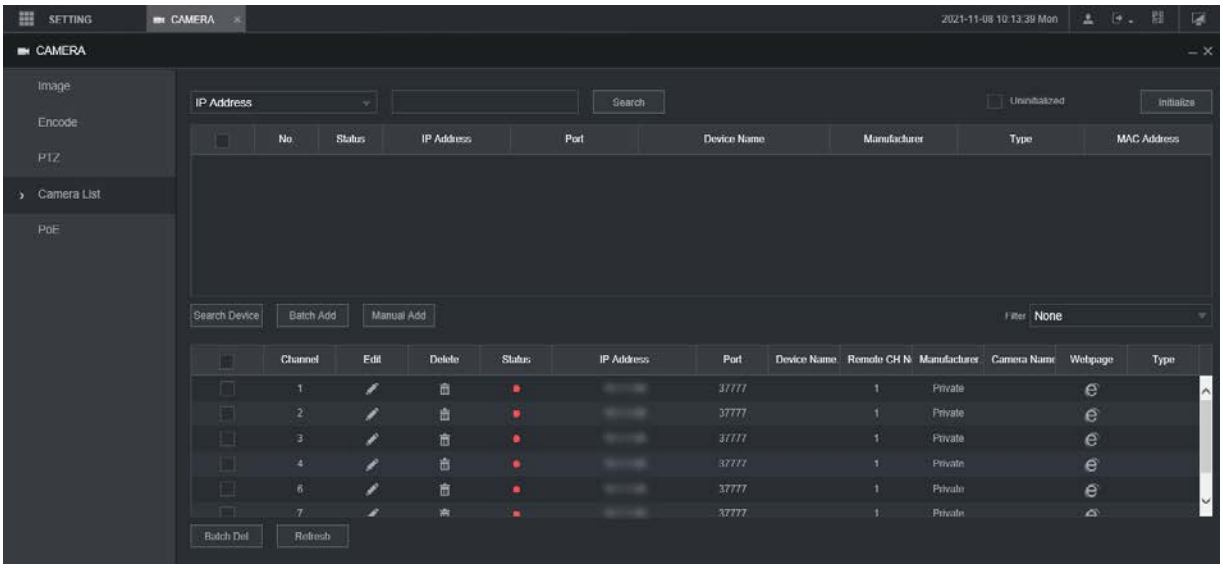
Asegúrese de que la grabadora remota admita la inicialización.

Procedimiento

Step 1 Haga clic en AJUSTES > CÁMARA > LISTA DE CÁMARAS.

los**Lista de cámaras**se muestra la interfaz. Consulte la Figura 3-8.

Figure 3-8 Lista de cámaras



Step 2 Hacer clic**Búsqueda**.

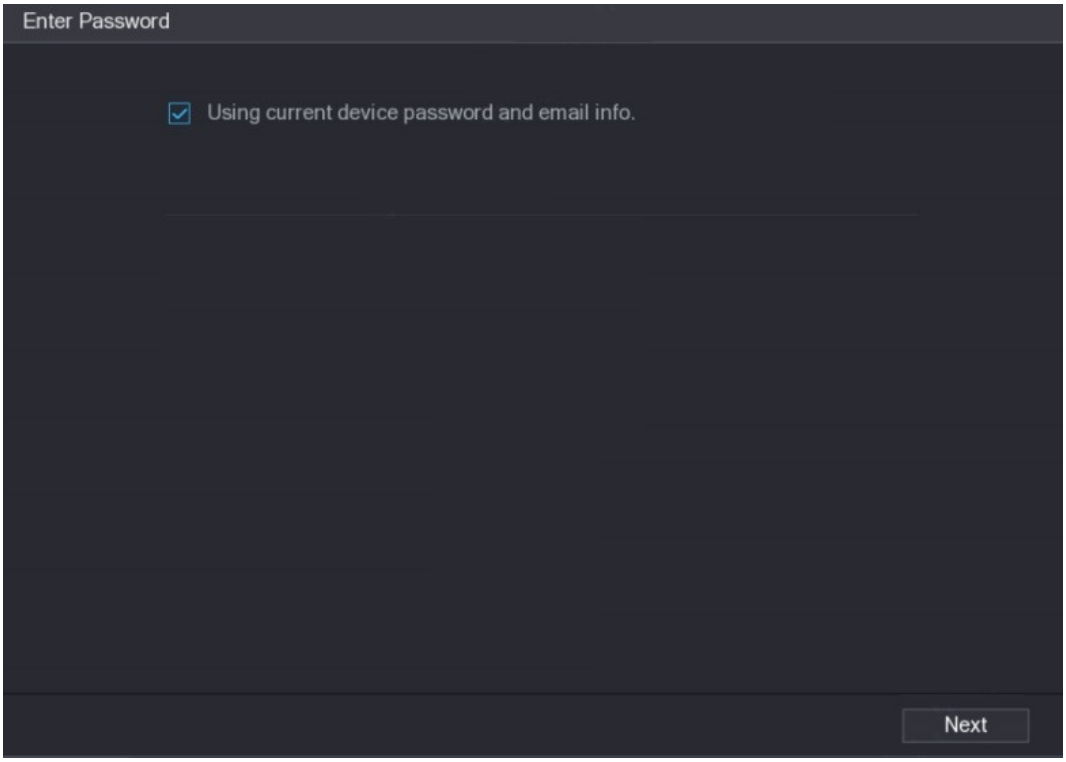
Se muestran las grabadoras buscadas. Haga clic

Step 3 en el**no inicializado**casilla de verificación Se muestran las grabadoras no inicializadas.

Step 4 Haga clic en la casilla de verificación de la grabadora no inicializada y, a continuación, haga clic en**Inicializar**.

los**Introducir la contraseña**se muestra la interfaz. Consulte la Figura 3-9.

Figure 3-9 Introduzca la interfaz de contraseña



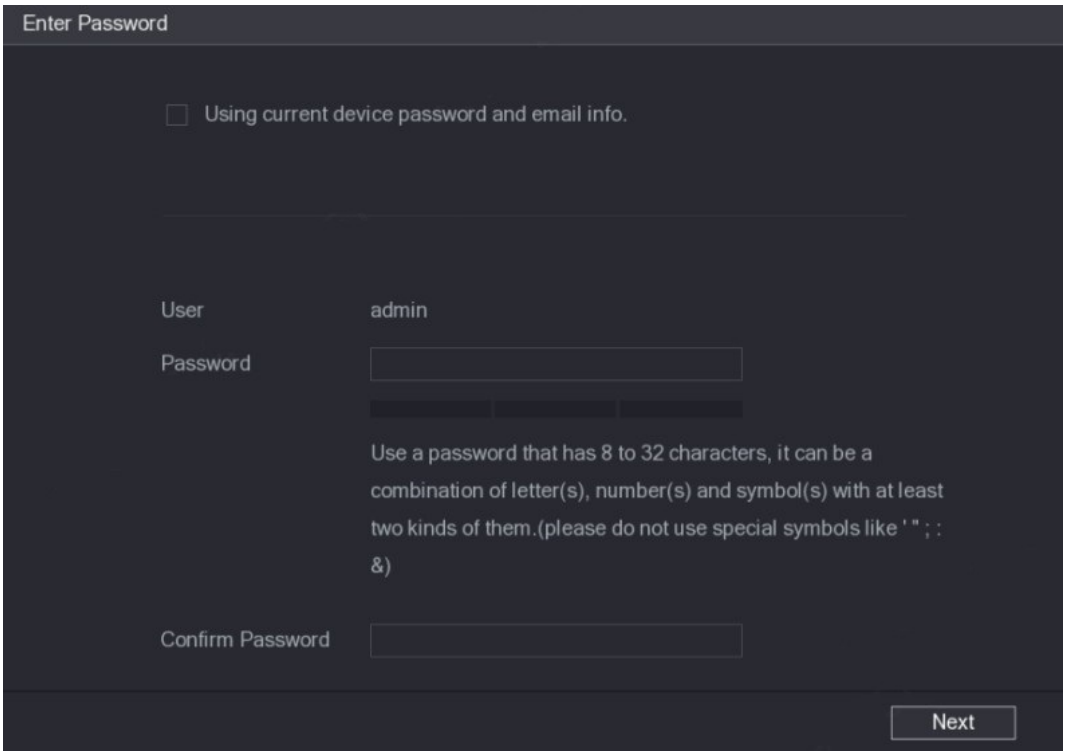
Step 5 Configure la contraseña de cualquiera de las dos formas siguientes.

- Usando la contraseña actual de la grabadora y la información de correo electrónico. Selecciona el**Usando la contraseña actual del dispositivo y el correo electrónico**casilla de verificación y la grabadora remota utiliza la contraseña y la información de correo electrónico de la grabadora.
- Configure manualmente la contraseña para grabadoras remotas.

1) Desmarque la casilla de verificación Usar la contraseña y el correo electrónico de la grabadora actual.

Se muestra la interfaz de configuración de contraseña. Consulte la Figura 3-10.

Figure 3-10 Establecer una contraseña

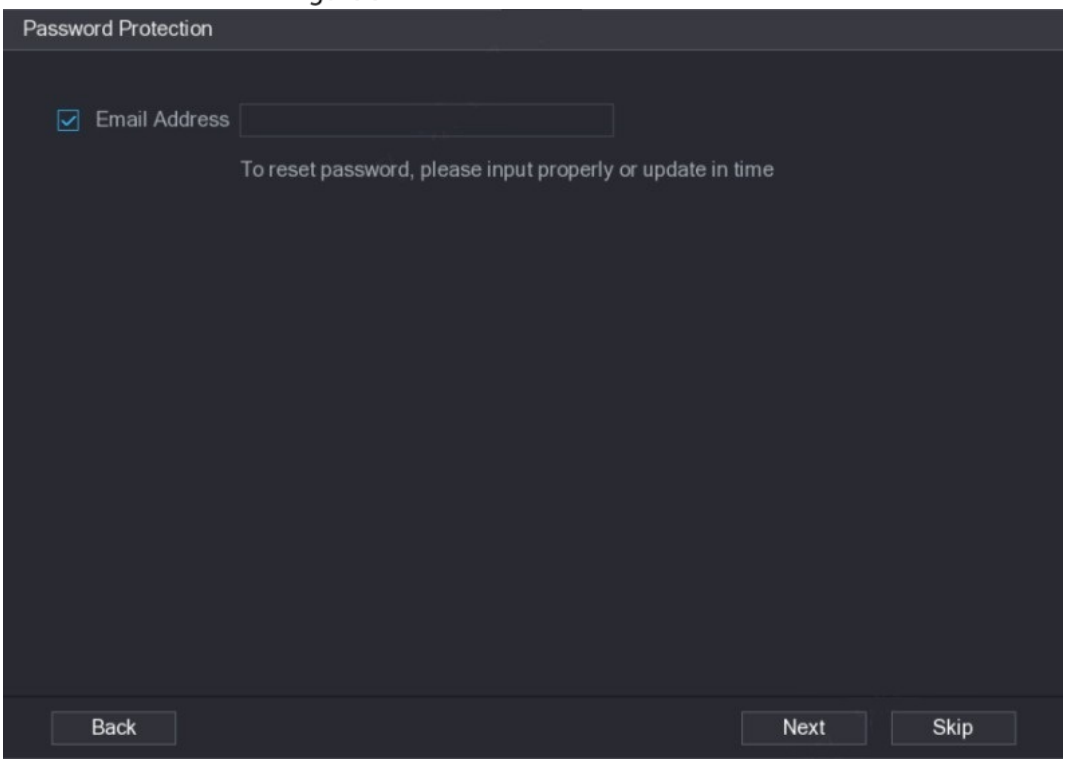


2) En el**Clave**ingrese la nueva contraseña y vuelva a ingresarla en el**Confirmar contraseña**caja.

Hacer clic**próximo**.

Se muestra la interfaz de configuración de contraseña. Consulte la Figura 3-11.

Figure 3-11 Protección de contraseña

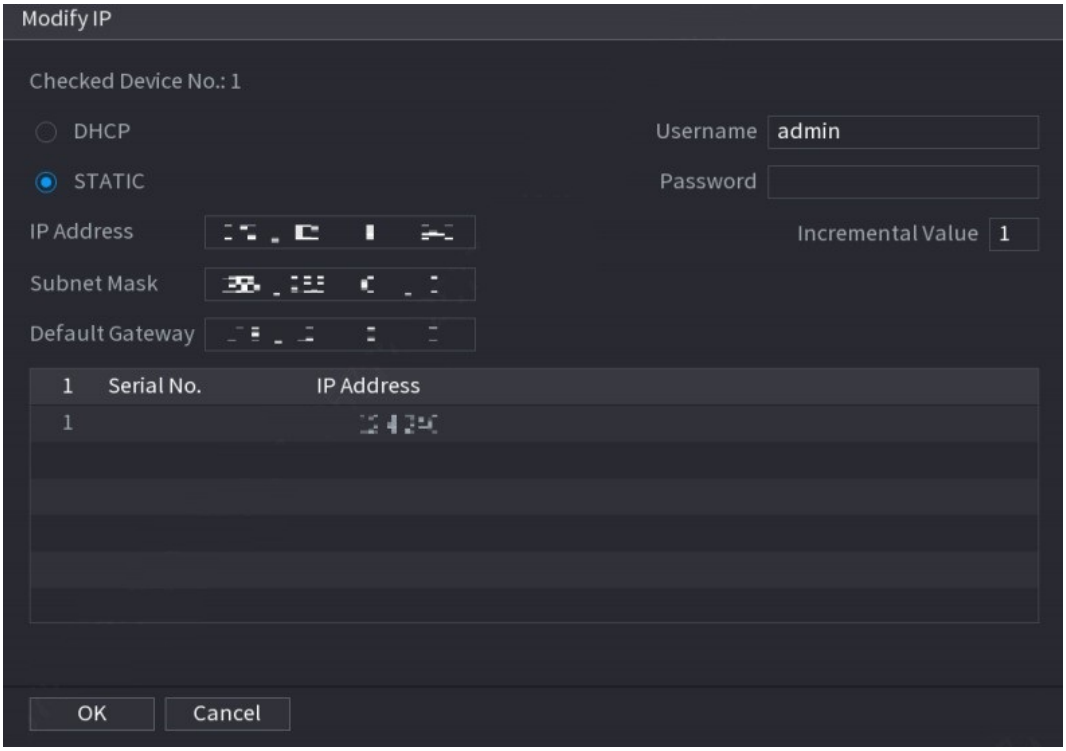


3) Establecer protección con contraseña.

- Haga clic en el**Dirección de correo electrónico**casilla de verificación y, a continuación, introduzca la dirección de correo electrónico.
- Hacer clic**próximo**. Hacer clic**Saltar**si no desea configurar la protección con contraseña.

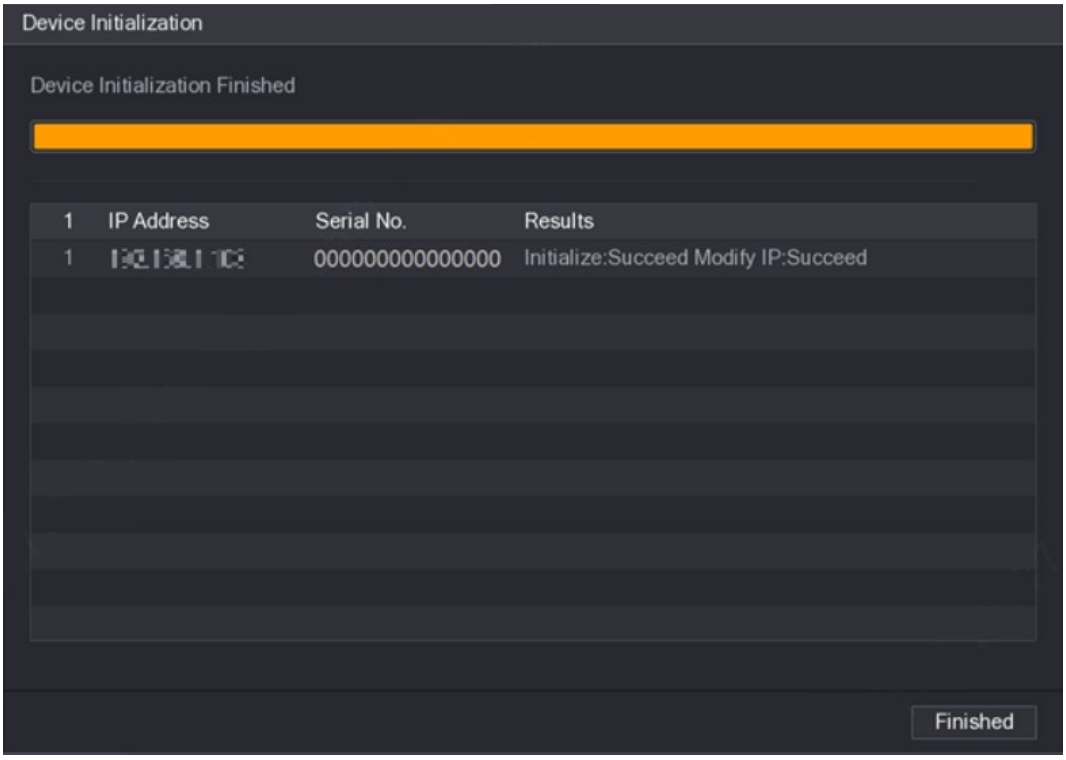
los**Modificar IP**se muestra la interfaz.

Figure 3-12 Modificar interfaz IP



Step 6 El registrador comienza a inicializar el registrador. Una vez completada la inicialización, consulte la Figura 3-13.

Figure 3-13 Inicialización completada



Step 7 Haga clic en Finalizado.

3.6.2 Adición de una grabadora remota

Puede agregar una grabadora remota manualmente o mediante búsqueda.

Step 1 Haga clic en AJUSTES > CÁMARA > LISTA DE CÁMARAS.

los**Lista de cámaras**se muestra la interfaz.

Step 2 Adición de una grabadora remota.

- Buscar y agregar

1. Haga clic en Buscar, se muestran las grabadoras buscadas.
2. Haga doble clic en una dirección IP o seleccione la casilla de verificación de una grabadora y luego haga clic en Agregar.

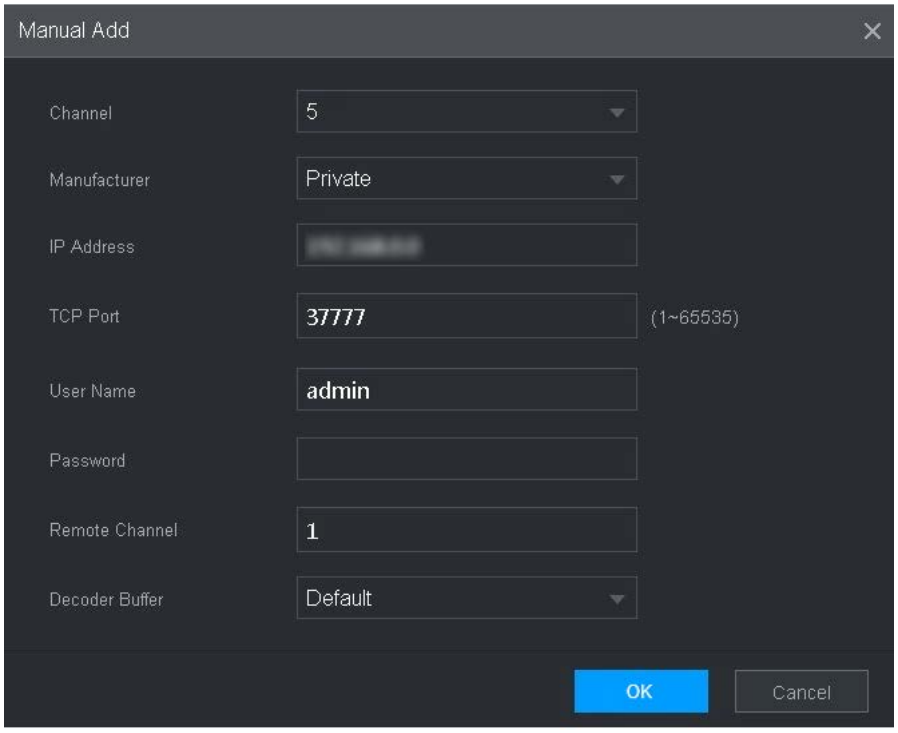
La grabadora se muestra en el área de grabadora añadida.

- Adición manual

1. Haga clic en Adición manual.

los**Adición manual**se muestra la interfaz. Consulte la Figura 3-14.

Figure 3-14 Adición manual



2. Configure más ajustes. Consulte la Tabla 3-4.

Los parámetros pueden ser diferentes según el modelo que haya comprado.

Tabla 3-4 Descripción de los parámetros de adición manual

Parámetro	Descripción
Fabricante	Seleccione un fabricante de acuerdo con la situación real. Los parámetros pueden variar según la fabricación. Siga parámetros específicos en la interfaz.
Convencional	El valor de flujo principal de la grabadora remota.
dirección IP	Ingrese la dirección IP de la grabadora remota.
Puerto TCP	Puerto de servicio TCP. La configuración predeterminada es 37777. Puede configurar este parámetro según su situación real.
Puerto RTSP	Ingrese el número de puerto RTSP de la grabadora remota. La configuración predeterminada es 554.
Puerto HTTP	Ingrese el número de puerto HTTP de la grabadora remota. La configuración predeterminada es 80.
Nombre de usuario	Ingrese el nombre de usuario y la contraseña para iniciar sesión en la grabadora remota
Clave	
Remoto Canal	Seleccione el número de canal que desea conectar.

Alarma Canal	El número de canal de la grabadora conectada remotamente. Solo puede seleccionar un canal que no haya agregado grabadoras remotas.
Descodificar buffer	Introduzca el tamaño del búfer de decodificación. La unidad es milisegundo y puede seleccionar de 80 a 480.
Tipo de servicio	Esto debe configurarse cuando selecciona Onvif o Custom como el fabricante. Al seleccionar diferentes fabricantes, los tipos de servicio son diferentes. Seleccione el tipo de servicio en función de sus necesidades.

3. Haga clic en**OK**.

La grabadora se muestra en el área de grabadora añadida.

- Si la grabadora remota que desea agregar tiene la misma dirección IP y puerto TCP con el registrador agregado existente, entonces este registrador no se puede adicional.
- indica que la conexión es exitosa; indica que la conexión falló.
- Para eliminar una grabadora agregada, selecciónela y luego haga clic en**Borrar**; para modificar el información de una grabadora agregada, haga clic en o haga doble clic en la grabadora.

3.6.3 Modificación de la dirección IP de la grabadora remota

Puede modificar la dirección IP de la grabadora remota de acuerdo con su plan de red.

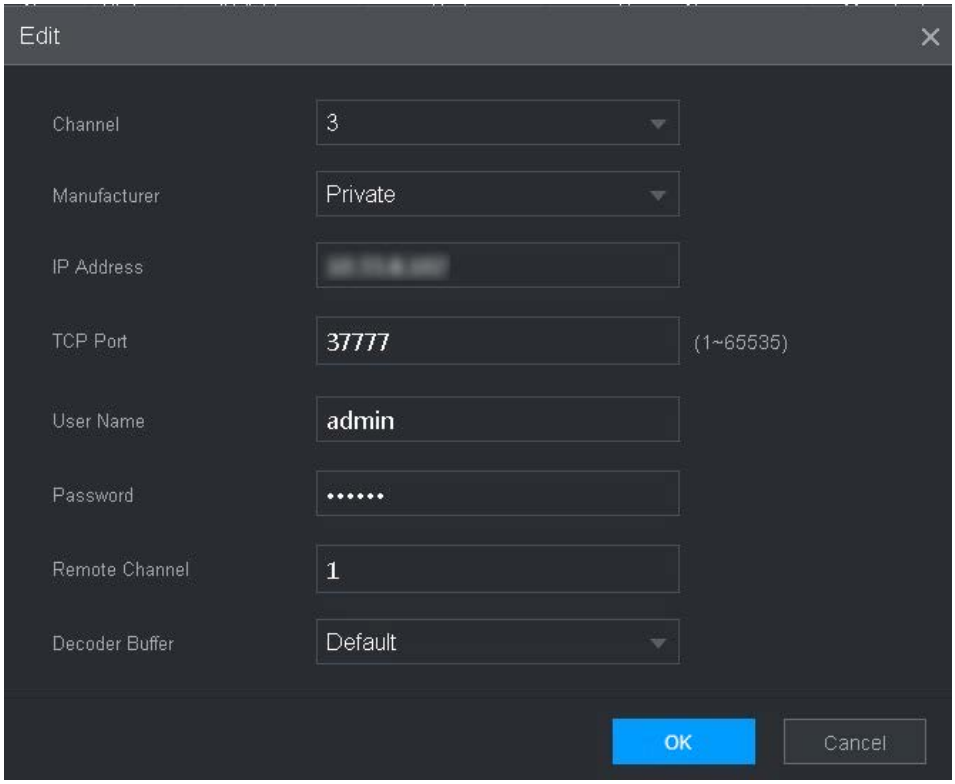
Step 1 Haga clic en AJUSTES > CÁMARA > LISTA DE CÁMARAS.

los**Lista de cámaras**se muestra la interfaz.

Step 2 En el**Grabadora añadida**lista, haga clic correspondiente a un registrador.

los**Editar**se muestra la interfaz. Consulte la Figura 3-15.

Figure 3-15 Editar



Step 3 Introduzca el nombre de usuario y la contraseña de la grabadora remota.

El sistema obtiene automáticamente el nombre de usuario, que se**administración**por defecto.

Step 4 Ingrese la dirección IP de la grabadora remota de acuerdo con su plan de red.

Step 5 Hacer clic**OK**.

Después de la modificación, la nueva dirección IP se muestra en el área Grabadora agregada.

3.7 Configuración de registro

El modo de grabación consta del modo manual y el modo automático. También puede habilitar o deshabilitar la función de instantánea.

- Automático: la grabación comienza automáticamente según el tipo de grabación y el tiempo de grabación configurado en el programa de grabación.
- Manual: Mantenga la grabación general durante 24 horas para el canal seleccionado.

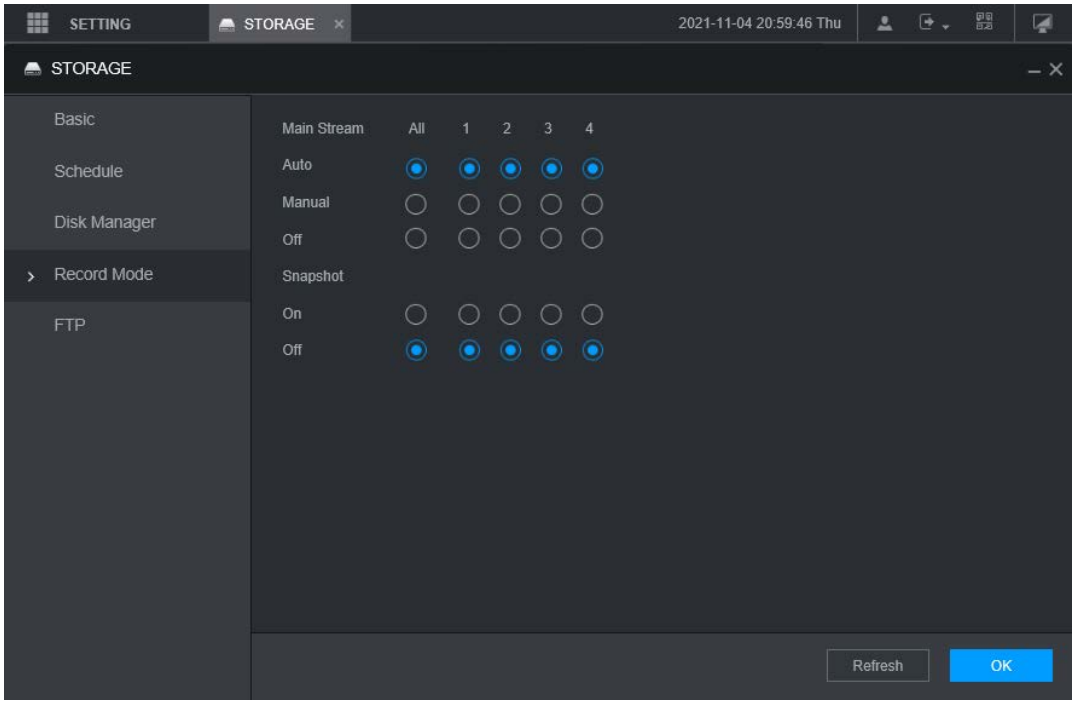
La operación de grabación manual requiere que el usuario tenga permiso para acceder**ALMACENAMIENTO**ajustes.

Asegúrese de que el disco duro instalado en la grabadora se haya formateado correctamente.

Step 1 Haga clic en CONFIGURACIÓN > ALMACENAMIENTO > MODO DE GRABACIÓN.

los**Modo de grabación**se muestra la interfaz. Consulte la Figura 3-16.

Figure 3-16 Modo de grabación



Step 2 Configure los parámetros del puerto serie; para obtener una descripción detallada, consulte la Tabla 3-5.

Tabla 3-5 Descripción del parámetro Modo de grabación

Parámetro	Descripción
Canal	Muestra el número de canal. Puede seleccionar uno o varios canales o seleccionar**Todos**.
Estado	Indica el estado de grabación de los canales correspondientes. Las opciones incluyen Automático, Manual, Habilitar y Detener. ● : Seleccionado ● : No seleccionado
Automático/Manual/Desactivado	Seleccione el modo de grabación, incluidos Manual, Automático y Detener. ● Manual: Máxima prioridad. Cuando el**Manual**Si se selecciona la casilla de verificación, el sistema mantiene la grabación general durante 24 horas para el canal correspondiente. ● Automático: el sistema comienza a grabar según el tipo de grabación (como alarma general, detección de movimiento y alarma del sistema) y el tiempo de grabación. ● Desactivado: no grabar.
Activar/Desactivar	Habilite o deshabilite la instantánea programada para los canales correspondientes.

Step 3 Hacer clic**OK**.

3.8 Plan de almacenamiento

3.8.1 Configuración del horario de grabación

Todos los canales graban 24 horas por defecto. Puede configurar el tipo de grabación y el tiempo de grabación según sea necesario.

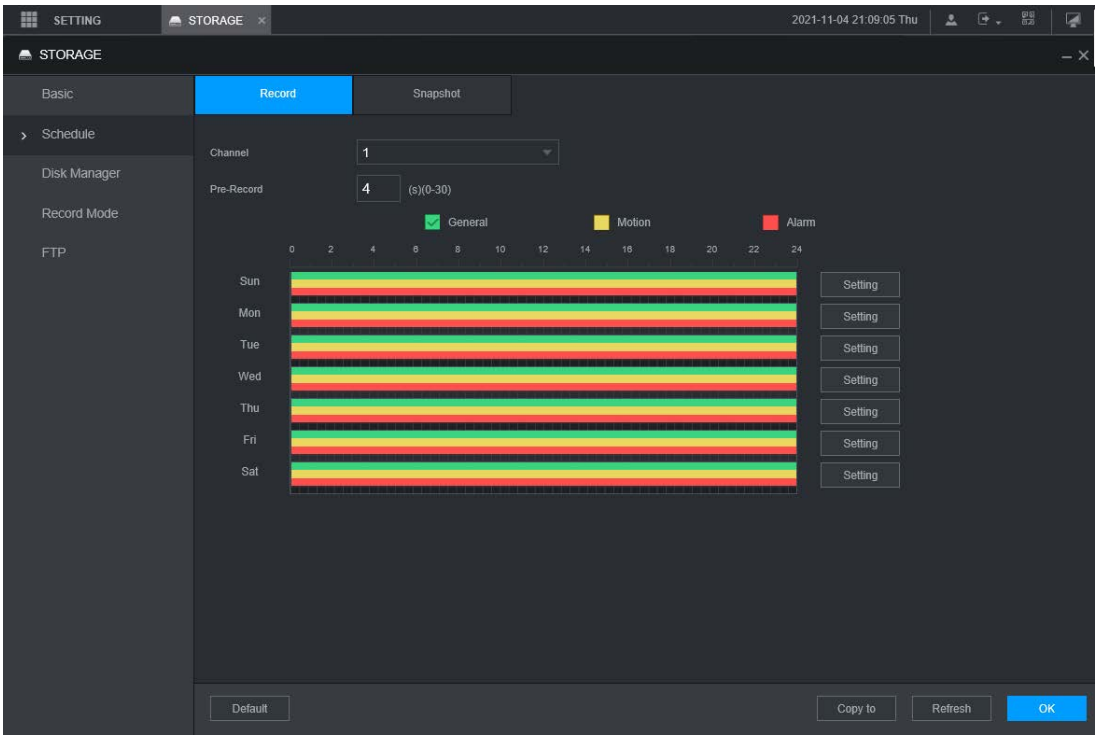
Preparación

La función de grabación automática está habilitada para el canal correspondiente. Para obtener más información, consulte "3.7 Configuración de registro".

Procedimiento

Step 1 Haga clic en CONFIGURACIÓN > ALMACENAMIENTO > PROGRAMA > Grabar. los**Registro**se muestra la interfaz. Consulte la Figura 3-17.

Figure 3-17 Registro



Step 2 Configurar parámetros de pregrabación. Consulte la Tabla 3-6.

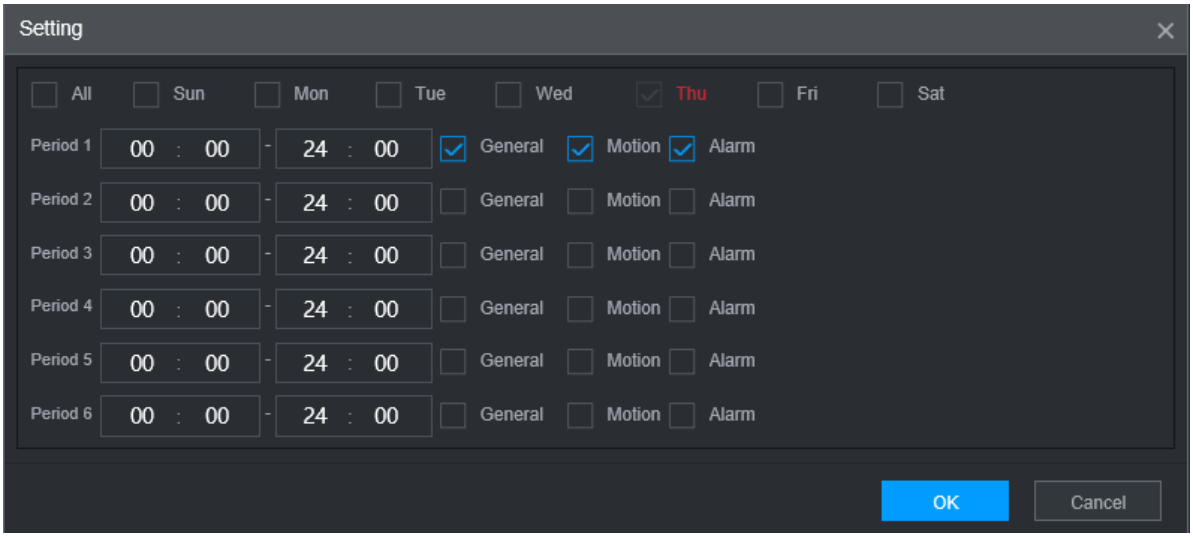
Tabla 3-6 Descripción de los parámetros de pregrabación

Parámetro	Descripción
Canal	Seleccione un canal para configurar el horario de grabación correspondiente. Si configura la misma configuración para todos los canales, seleccione**Todos**.
Grabar antes	Comience a grabar de 0 a 30 segundos antes de que ocurra el evento de alarma. Si ingresa 0 segundos, no habrá pregrabación.

Step 3 Configure el período de tiempo de grabación.

1) Haga clic**Ajuste**correspondiente al día de la semana. los **Período**se muestra la interfaz. Consulte la Figura 3-18.

Figure 3-18 Período



2) Seleccione el tipo de registro y un día de la semana, y configure el período.

Si el**Movimiento**casilla de verificación y el**Alarma**casilla de verificación están seleccionadas, el correspondiente el enlace de alarma debe estar habilitado. Por ejemplo, si el tipo de alarma es**Movimiento**, Seleccione **Habilitar canal**y seleccione el canal de grabación.

3) Haga clic**OK**para volver a la**Registro**interfaz. Hacer

Step 4 clic**OK**.

Hacer clic**Copiar**para copiar la configuración a otros canales.

3.8.2 Configuración de la programación de instantáneas

Puede configurar el programa de almacenamiento para tomar la instantánea.

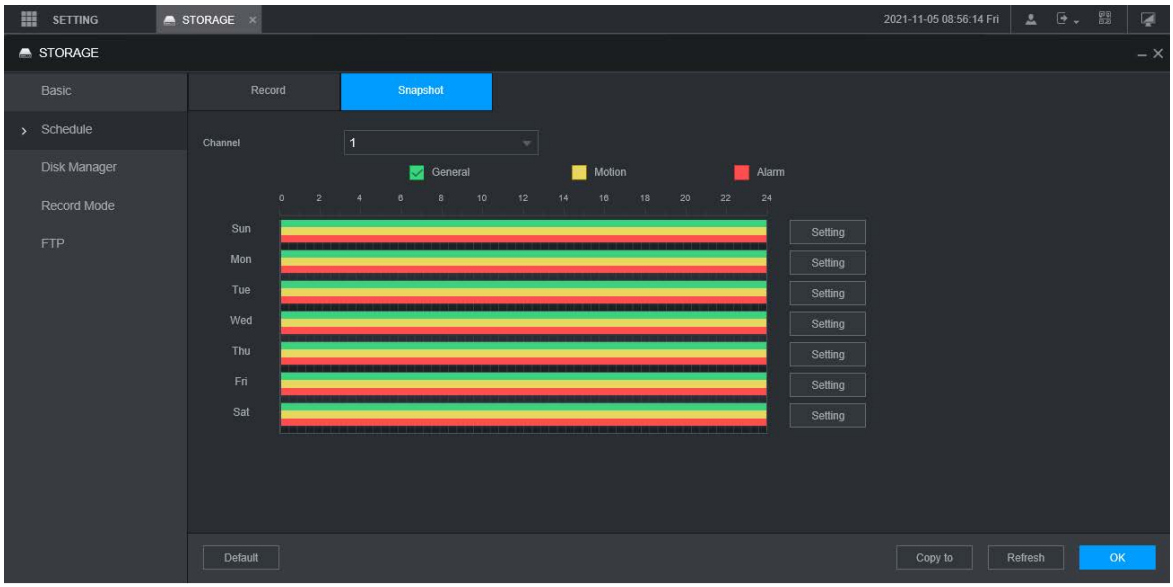
Preparación

La función de instantánea está habilitada para el canal correspondiente. Para obtener más información, consulte "3.7 Configuración de registro".

Procedimiento

Step 1 Haga clic en CONFIGURACIÓN > ALMACENAMIENTO > PROGRAMA > Instantánea. los**Instantánea**se muestra la interfaz. Consulte la Figura 3-19.

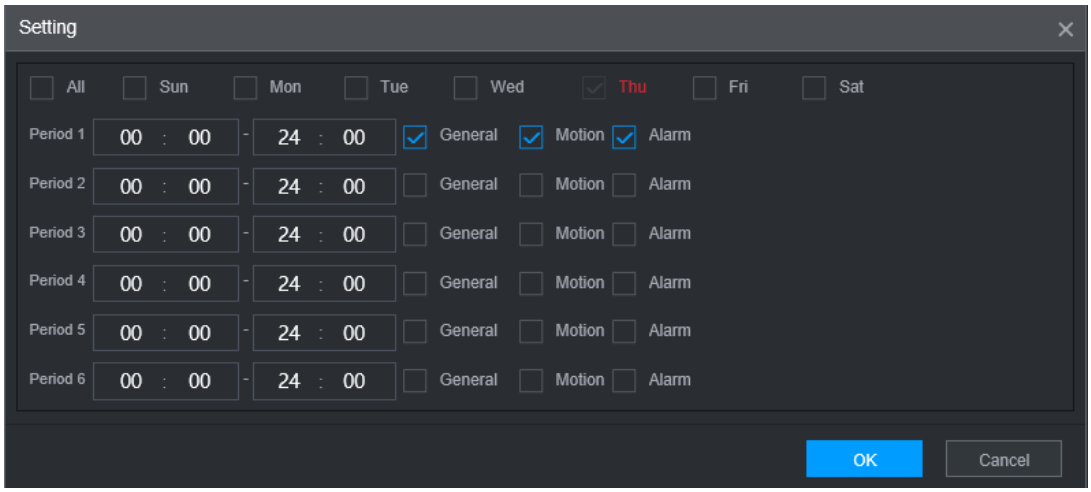
Figure 3-19 Instantánea



Step 2 Configuración del período de tiempo para tomar instantáneas. 1) Haga clic**Ajuste**.

los**Período**se muestra la interfaz. Consulte la Figura 3-20.

Figure 3-20 Período



2) Seleccione el tipo de instantánea y el día de la semana, y configure el período para tomar la instantánea.

3) Haga clic**OK**para volver a la**Instantánea**interfaz. Hacer

Step 3 clic**OK**.

4 Function Modules Operations

Operate the Recorder on local interface or web interface. Two kinds of interface operation are similar. This section takes web interface operation for example.

4.1 Live

After you logged in to the web interface, click **LIVE**, the **LIVE** interface is displayed.

Figure 4-1 Live

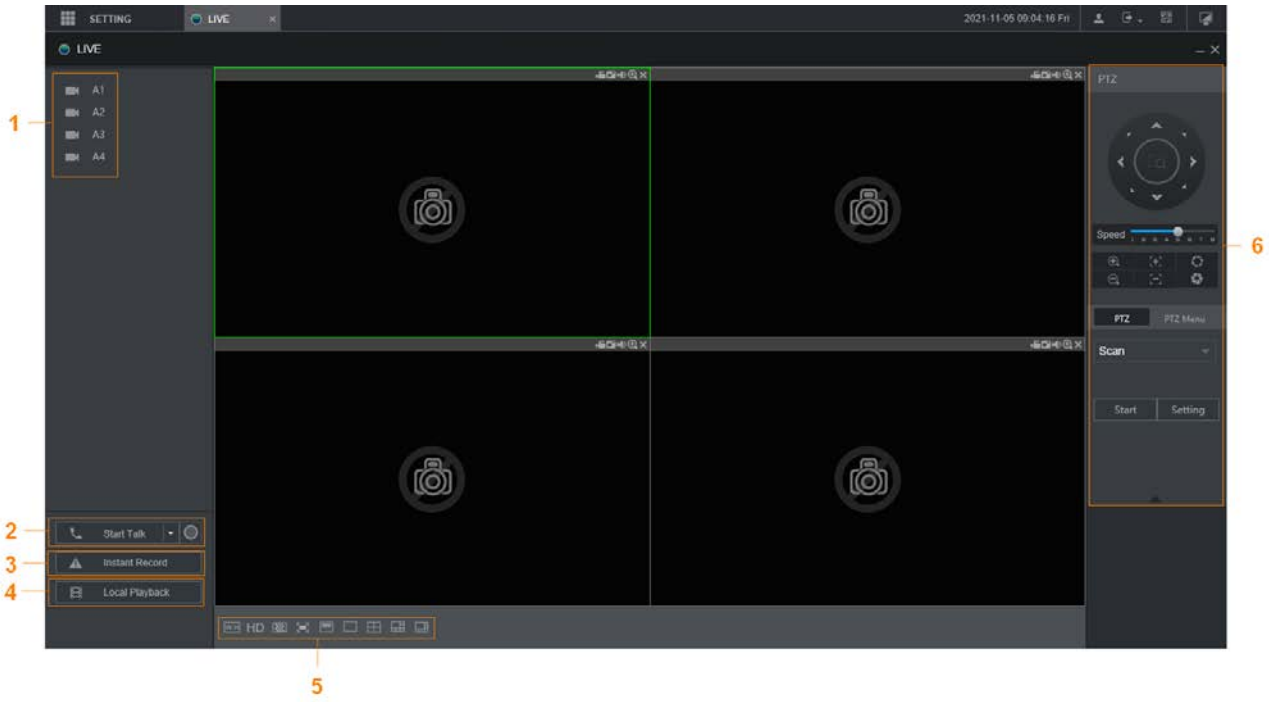


Table 4-1 Live interface parameters description

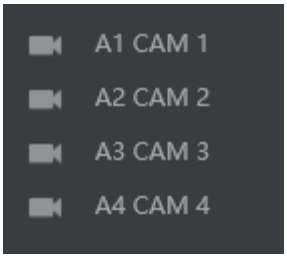
No.	Name	Description
1	Live channels	See "4.1.2 Live Channels."
2	Start Talk	See "4.1.3 Voice Talk."
3	Instant Record	Click **Instant Record**, the recording type switches to Manual, and the icon turns to  ; click **Instant Record** again to switch the record type back to Auto. This function is only supported by main stream.
4	Local Playback	Plays back the video file (.dav) stored on the PC. Click **Local Playback**, select the video file in the pop-up dialog box, and then click **Open** to start playing back the video file

5	Window function operations	• Configure the image quality, playback fluency, full screen, vertical sync, and window split mode. • For real-time monitoring, you can select the fluency or real-time to be the priority according to your actual requirement. • Select  to split the live window as necessary.
6	PTZ	See "4.1.4 PTZ Control."

4.1.2 Live Channels

Display the list of monitoring channels.

Figure 4-2 Monitoring channels



Operations in Monitoring Channels

Click any monitoring channel to display its live video. See Figure 4-3.

Figure 4-3 Live video

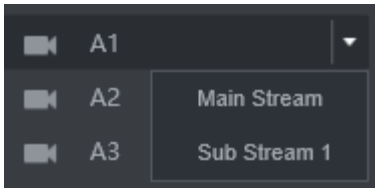
Table 4-2 Video monitoring window parameters description

No.	Parameter	Description
19 6_3_4101Kbps_M	Recorder information	Displays the IP address, channel number, bit stream, and stream type (M represents main stream; S represents sub stream)
	Local Record	Click this icon to start recording; click it again to stop recording. The recorded files are stored in C:\Record Download by default. You can modify this path if needed.
	Snapshot	Click this icon to start taking snapshot. The snapshots default storage path is C:\PictureDownload. You can modify this path if needed.
	Audio	Mute/unmute audio.
	Area zoom in	Click the icon, and then draw a box at any area to zoom in the selected part. Right-click or click the icon again to restore to the original status.
	Close	Close the live view in the window.

Bit Rate

The system supports switching between main stream and sub stream in real-time monitoring window. See Figure 4-4.

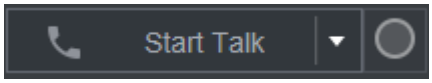
Figure 4-4 Bit rate



4.1.3 Voice Talk

You can do the two-way voice talk between the Device and Client.

Figure 4-5 Voice intercom



- Click **Start Talk** to enable the voice talk between the Device and Client.
- Click the drop-down list to select the voice talk mode. Available options include: DEFAULT, PCM, G711a, and G711u.

After enabling voice talk, the **Start Talk** icon turns to **End Talk**. Click **Stop Talk** if you want to end the

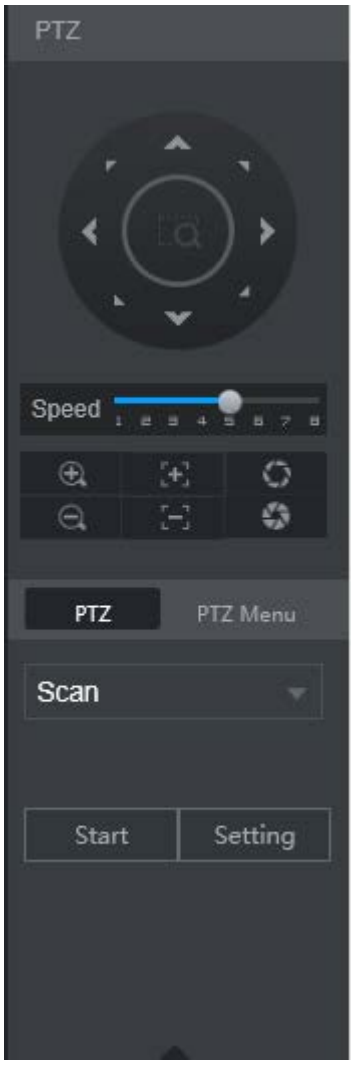
talk.

4.1.4 PTZ Control

You can perform the operations through PTZ control panel, such as PTZ directions, speed, zoom, focus, and iris. See Figure 4-6.

- PTZ support rotating Recorder toward eight directions, up, down. Left, right, left up, right up, left down, right down.
- Speed function controls the movement speed. The larger the value is, the faster the PTZ moves.
- Click / to display or hide the **PTZ** settings and **PTZ** menu functions.

Figure 4-6 PTZ Console



4.1.4.2 PTZ

You can configure scan, preset, tour, pattern, and auxiliary functions. For details, see Figure 4-7 and Table 4-3.

Figure 4-7 PTZ

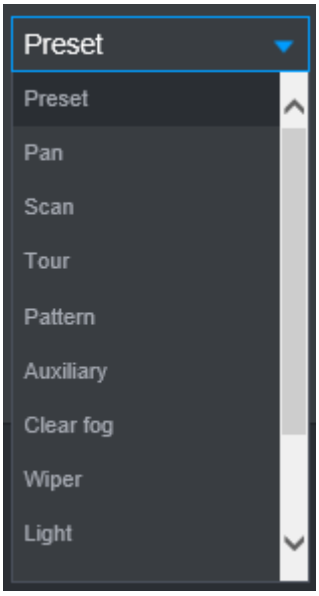


Table 4-3 PTZ functions settings parameters

Parameter	Description
Scan	After setting up scan, the camera automatically scans the configured left border and right border. 1. In the **PTZ Setup** list, select **Scan**, and then click **Setup**. Two buttons of **Set the left border** and **Set the right border** are displayed. 2. Through the PTZ control panel, move the camera to the left border that you want and click **Set the left border**; move the camera to the right border that you want and click **Set the right border**. Configuration finished. 3. Click **Start** to start scanning; click **Stop** if you want to end scanning.
Preset point	You can quickly move the PTZ camera to the configured presets after configuration. In the PTZ setup list, select Preset, and then move the camera to the direction that you want to monitor. 1. Click **Preset**, and control the PTZ console to turn the camera to the target monitoring direction. 2. In the Preset box, enter the preset value. 3. Click **Add** to complete adding preset. 4. In the Preset box, enter the preset value, and then click **Go to**, the camera moves to the location of preset. Click **Del** to delete the preset.
Calling Tours	The PTZ camera repeats performing tours among the configured presets after configuration. 1. Click **Tour** and set up the value of the tour 2. Click **Add**, and then enter the preset value 3. Click **Add Preset** or **Del Preset** to add or delete the presets You can do this repeatedly to add presets to delete presets from the tour 4. Enter the tour value, and then click **Start**. The camera starts rotating according to the configured tour. Click **Del** to delete the tour.

Touring pattern	The PTZ camera repeats movement according to the configured patterns. The operation records include the information such as the manual operations and focus adjustment 1. Click **Pattern** and enter the pattern value 2. Click **Add**. Two buttons of **Start Rec** and **Stop Rec** are displayed. 3. Click **Start Rec**. Then operate the PTZ control panel to adjust the camera with regard to the parameters such as monitoring direction, zoom, and focus. 4. Click **Stop Rec** to complete the touring pattern setting. 5. Enter the pattern value, and then click **Start**. The camera moves according to the configured patterns. Click **Stop** to stop the pattern.
Pan	In the **PTZ Setup** list, Click **Pan**, and then click **Start**. The camera keeps rotating with 360° horizontally. Click **Stop** to stop rotating.
Light	Controls the light of external Recorder through RS-485 command. To use this function, make sure it is supported on the external Recorder In the **PTZ Setup** list, Click **Light**. Click **On** to turn on the light, and click **Off** to turn off the light.
Using Flip function	Select and click **Flip** if you want to flip display the video image
Reset	Click **Reset** to reset the PTZ
POFE	If you select this, PTZ will automatically turn to certain fixed position after device on.  To make this function work, you need to configure preset 2 first, and then turn on the device and enable POFE, PTZ will turn to preset 2 position.
PONE	If you select this, PTZ will automatically turn to certain fixed position after device off.  This function needs to configure preset 65 beforehand, after choosing this and turn off device, PTZ will turn to that preset position.

4.1.4.3 PTZ Menu

After the PTZ menu is turned on, it displays on the monitoring window. You can configure the settings for the options such as camera, PTZ, and system, and apply the settings through arrow buttons and **OK** button.

This function is supported only on the camera with PTZ menu function.

Step 1 Turn on the camera monitoring screen.

Step 2 On the PTZ control interface, click the **PTZ Menu** tab.

The **PTZ Menu** is displayed. See Figure 4-8. For details, see Table 4-4.

Figure 4-8 PTZ menu

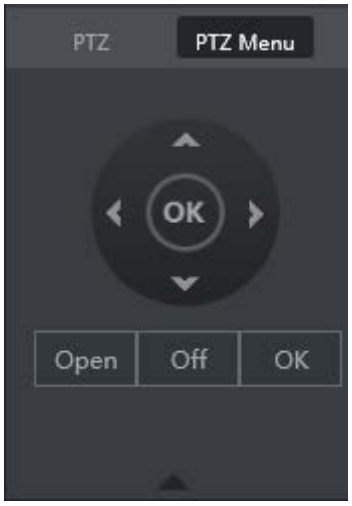


Table 4-4 PTZ menu parameters description

Parameter	Description
/	Up and down buttons: Select the item that is pointed.
/	Left and right buttons: When the item is pointed, perform configurations to the item.
Open	Click **Open** to turn on the **PTZ menu** that is displayed on the monitoring window.
Off	Click **Off** to turn off the **PTZ menu**.
OK	The **OK** button provides the following functions. ● If there is sub-menu for an item, click **OK** to enter the sub-menu. ● Move the pointer to **Return**, and then click **OK** to return to the higher level menu. ● Move the pointer to **Exit**, and then click **OK** to exit the menu.

Step 3 Click **Open**.

The OSD menu is displayed on the monitoring screen.

Table 4-5 OSD menu parameters description

Parameter	Description
Camera	Move the pointer to **Camera**, and then click **OK** to enter the sub-menu of **Camera**. You can configure the camera parameters such as image, exposure, backlight, white balance, day & night, zoom, and focus.
PTZ	Move the pointer to **PTZ Setup**, and then click **OK** to enter the sub-menu of **PTZ Setup**. You can configure the PTZ parameters such as preset, tour, scan, pattern, pan, and reboot.
System Manager	Move the pointer to **System**, and then click **OK** to enter the sub-menu of **System**. You can configure the settings such setting analog PTZ, restoring factory default, and viewing camera version and PTZ version.
Back	Move the pointer to **Return**, and then click **OK** to return to the higher level menu.
Exit	Move the pointer to **Exit**, and then click **OK** to exit the menu.

Step 4 Click **Off** to turn off the PTZ menu.

4.2 Record Playback

On the **SEARCH** interface, you can play back or download video recording files.

On the main web interface, click **SEARCH**.

Figure 4-9 Playback

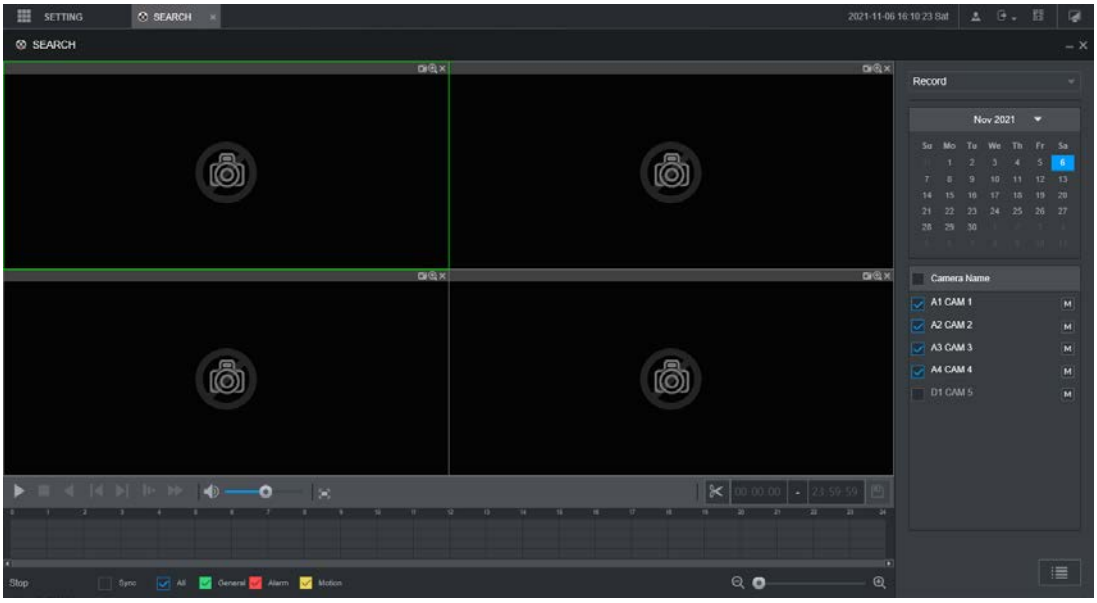


Table 4-6 Playback function bar

No.	Function	Description
1	Playback control bar	See "4.2.1 Playback Control Bar."
2	Volume adjustment	Controls playback volume, including: ●  , means mute. ●  , means not mute, and the volume can be adjusted.
3	Full screen button	To play the video recording in full screen.
4	Video editing	Captures and saves certain video sections.
5	Sync	With **Sync** selected, when you click in the progress bar to play back the recordings, the playback time of other channels will sync with the selected channel in the following ways: ● If the playback time of other channels is before the time of the selected channel, other channels will speed up the playback till synced with the selected channel. ● If the playback time of other channels is after the time of the selected channel, other channels will pause to wait till synced with the selected channel.
6	Record type selection	The record types include Regular, MD, and Alarm. You can select the type as needed.
7	Time bar	Move the slider or click  to adjust the time bar.

8	Playback type	To select the playback type. Only record playback is supported at present.
9	Date selection	Click to select the date the recording on which you want to play back.
10	Camera name	You can set the cameras to focus on. You can select up to 4 cameras.
11	File list	In the file list, you can play back the recordings by file name, download video recordings by file name or time, and verify the completeness.

4.2.1 Playback Control Bar

Table 4-7 Playback control bar

Icon	Function	Description
	Play	When this icon displays, it means the video is paused or not being played. You can click this icon to play the video.
	Stop	Click this icon to stop playback.
	Backward playback	Click this icon to play the video recording backward.
	Previous frame	Click this icon to jump to the previous frame. You need to pause the playback before using play by frame.
	Next frame	Click this icon to play the next frame. You need to pause the playback before using play by frame.
	Slow playback	Click this icon to adjust the slow playback speed. Click  to start slow playback.
	Fast playback	Click this icon to adjust the fast playback speed. Click  to start fast playback.

4.2.2 Playing Back Video Recordings

You can play back video recordings by time or file name. During playback, you can conduct the following operations.

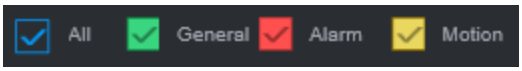
- In the channel window, click  at the upper right corner and select the area you want to enlarge. The area is enlarged. Click this icon again or right-click in the window to exit.
- Click  at the upper right corner to take a snapshot.
- Click at the upper right corner to close playback.

Playing Video Recordings by Date

Step 1 Select the date for searching for the video recordings, and set the corresponding channel as needed.

Step 2 Select a date with video recordings and the channel window, and then select the record type.

Figure 4-10 Record type



Step 3 Click  to start playing back video recordings.

Playing Video Recordings by File Name

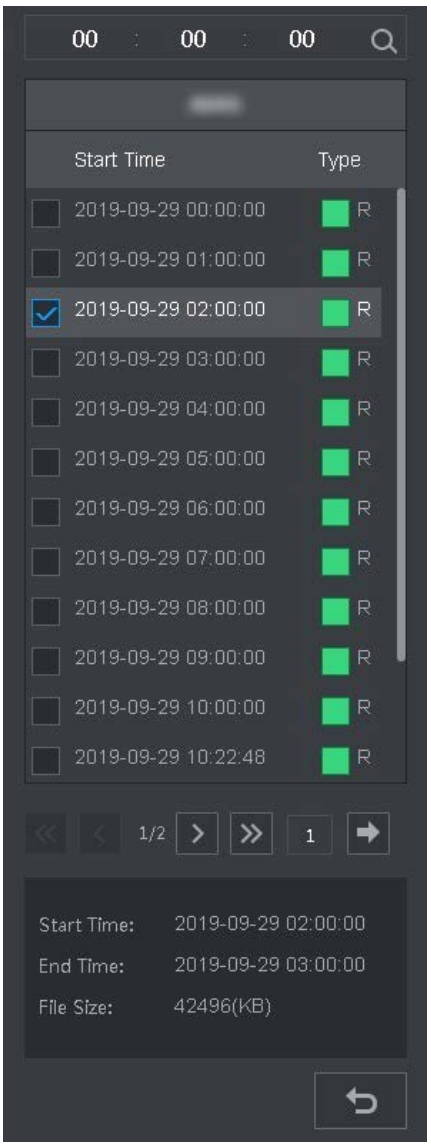
Step 1 Select the date for searching for the video recordings, and set the corresponding channel as needed.

Step 2 Select a date with video recordings and the channel window.

Step 3 Click File list.

The video recordings are displayed in the list.

Figure 4-11 File list



Step 4 Set the start time of the file to be searched for, and then click  . The recording files are displayed.

Step 5 Double-click the video recordings to start playback.

4.2.3 Clipping Recording File

You can clip sections of video recordings and save to the PC.

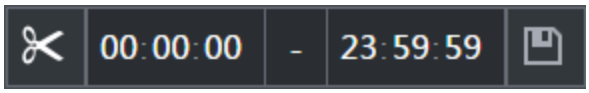
Step 1 Search for the video recordings that you want to clip by using the calendar and timeline.

Step 2 Select the channel number.

Step 3 Clip the video by either of the following ways.

- Method A: Click , and the and sliders appear at the two ends of the timeline. Move the sliders to the proper time points, and then click to clip and save the section between the time points.
- Method B: In the text box shown below, enter the start time and end time, and then click to clip and save the section during this period.

Figure 4-12 Clip and save



The system displays a downloading progress bar. After the download is completed, the clipped video files are saved in the "RecordDownload" folder by default. You can also change the path as needed.

Click to stop downloading the recordings.

4.3 Viewing Alarm Info

You can view the alarm information during a fixed period.

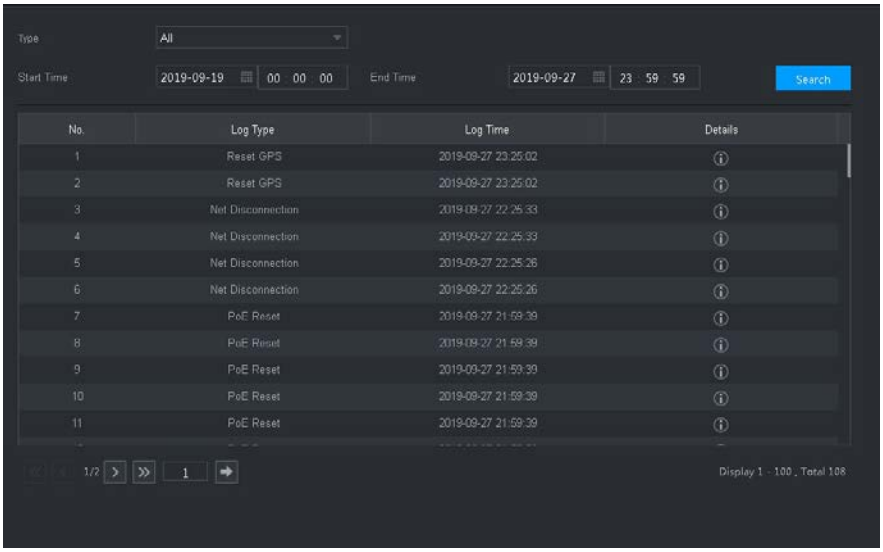
Step 1 On the main web interface, click **ALARM > Alarm Info**.

Step 2 Select **Type** to set the alarm type to be searched for, including All, Motion Detect, Video Loss, Tampering, Abnormality, Local and Smart Alarm.

Step 3 Set the start time and end time.

Step 4 Click **Search**. Alarm information in the set type during the set period is displayed.

Figure 4-13 Alarm info



Step 5 Click **Backup** to back up the obtained alarm information to a local directory.

You need to install relevant controls before backup.

5 System Settings

You can set up system information following instructions on the Local interface or web interface. This section introduces the web interface instructions. The Local interface is similar and would not be elaborated here.

- Some functions can only be configured on the Local interface. The actual interface shall prevail.
- Some functions are not used in actual operations, so they are not described in detail in the document.
- In this section, when you have configured the settings for a channel, click **Copy** to apply the settings to other channels. Click **Refresh** to display the latest configuration. Click **Default** to restore to factory default settings.

5.1 Configuring Alarm Event Settings

Alarm information settings include the setting of video detection, alarm input, abnormality and alarm output.

5.1.1 Configuring Video Detect Settings

Video detection includes motion detection, video loss, and tampering. This function detects the abnormal changes and triggers alarms.

5.1.1.1 Configuring Motion Detect Settings

When the moving object appears and moves fast enough to achieve the preset sensitivity value, the system triggers an alarm and alarm linkage.

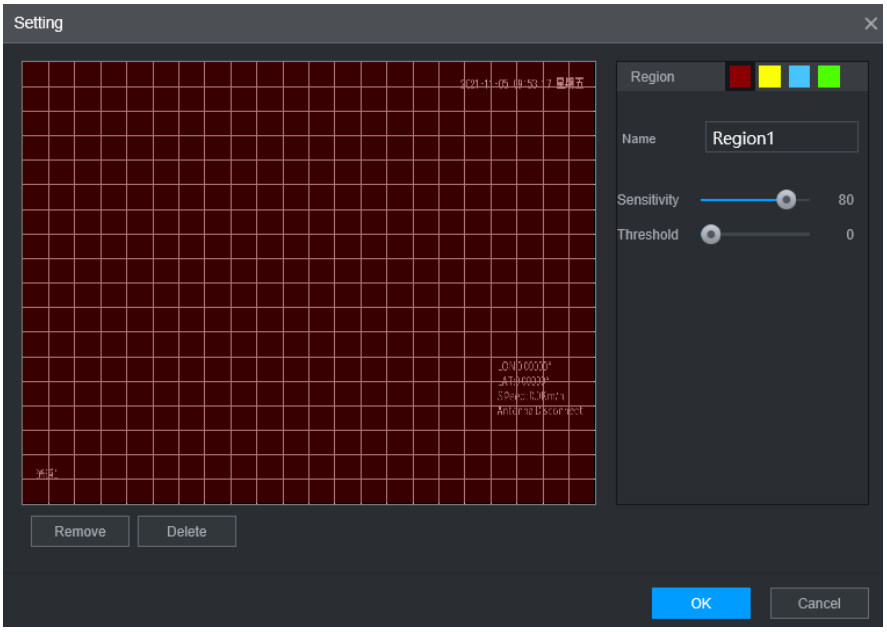
Step 1 On the main web interface, select **ALARM** > **Video Detection** > **Motion Detect**.

Step 2 Select the channel number and select **Enable** to enable the motion detect function for the channel.

Step 3 Set MD region.

1) Click **Setting** behind **Region**.
   The **Setting** interface is displayed.

Figure 5-1 Region setting



2) Select a region and name it.
The higher the sensitivity value is, the easier the motion detect is triggered; the lower the threshold is, the easier the motion detect is triggered. By default, the whole video image is for motion detect.

Each color represents a separate region, and you can set different motion detect regions.

3) Hold down the left button of the mouse, drag to select the region to be detected, and set up its sensitivity and threshold value.

Channel alarm events: As long as any one of the four regions triggers alarm, the channel that houses the region will give alarm.

4) Click **OK**.

Step 4 Configure alarm linkage parameters.

Table 5-1 Alarm linkage parameters

Parameter	Description
Delay	When an alarm ends, the alarm recording will stop after a period of delay.
Alarm output	Connect with an alarm device (such as an alarm light or siren) on the alarm output interface, click **Setting** to set the alarm output device, and activate the alarm linkage output port. When an alarm event takes place, the system can trigger corresponding alarm output devices.
Latch	Click **Setting** under **Alarm Out** to set the latch. Set a length of time during which the device continues alarm output after the alarm ends.

Record channel	Select the corresponding check box and set a record channel. When an alarm event occurs, the corresponding channel starts recording automatically. Two more conditions must be satisfied before recording function works: ● Motion detect recording is enabled. ● Auto recording is enabled.
Snapshot	Select the corresponding check box and set the channel. When an alarm event occurs, the corresponding channel starts capturing automatically. You can also configure the frequency, size, and quality of the snapshots.
Anti-dither	Click **More** to set the anti-dither time. The system records only one event during this period.
Show message	Click **More**, and select the corresponding check box to trigger a pop-up message in your local host PC when an alarm event occurs.
Buzzer	Click **More**, and select the corresponding check box to trigger a buzzer noise on the device when an alarm event occurs.
Log	Click **More**, and select the corresponding check box to enable the device to create a local alarm log when an alarm event occurs.
Send email	Click **More**, and select the corresponding check box. When an alarm event occurs, the system sends email to the specified mailbox. Set your e-mail first before enabling this function. See "5.6.4 Configuring Email Settings."

Step 5 Click **OK**.

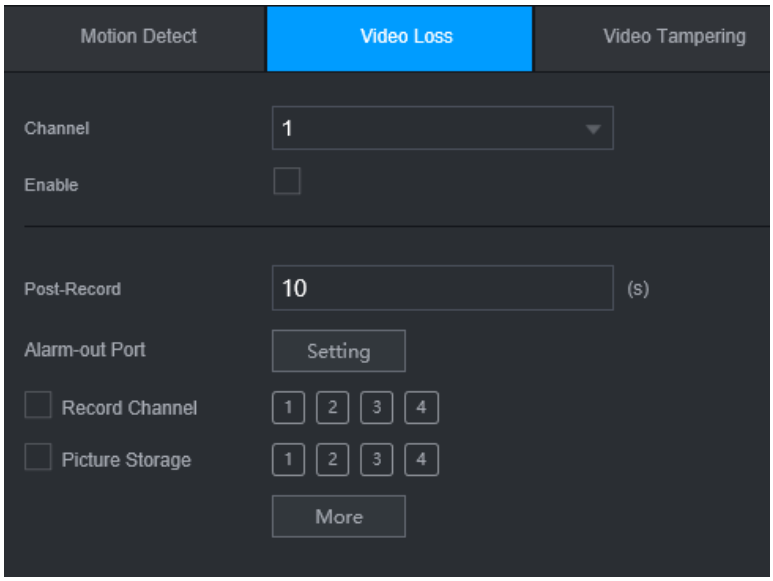
5.1.1.2 Configuring Loss Detect Settings

When video loss occurs, the system triggers an alarm and configured actions.

Step 1 On the main web interface, select **ALARM** > **Video Detection** > **Video Loss**.

The **Video Loss** interface is displayed.

Figure 5-2 Video loss



Step 2 Select **Channel** and select **Enable** to enable the video tampering detect function for the channel.

Step 3 Configure alarm linkage parameters.

Step 4 Click **OK**.

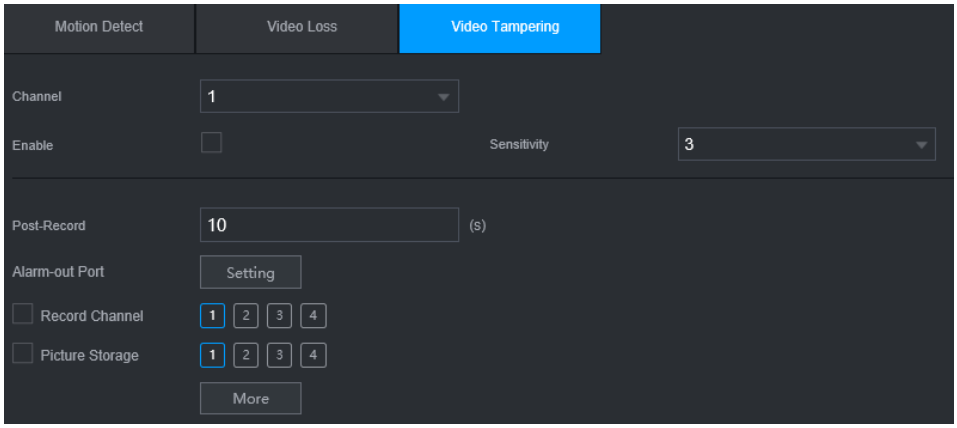
5.1.1.3 Configuring Tampering Settings

When the camera is covered intentionally, or the video is displayed in a single color due to sunlight or other reasons, that is the monitoring cannot be continued normally, the system triggers alarm and links to the configured actions.

Step 1 On the main web interface, select ALARM > Video Detection > Video Tampering.

The **Video Tampering** interface is displayed.

Figure 5-3 Video Tampering



Step 2 Select **Channel** and select **Enable** to enable the video tampering detect function for the channel.

Step 3 Set the sensitivity of detection.

The higher the sensitivity, the easier it is to detect a moving object, but the false alarm rate might increase.

Step 4 Configure alarm linkage parameters.

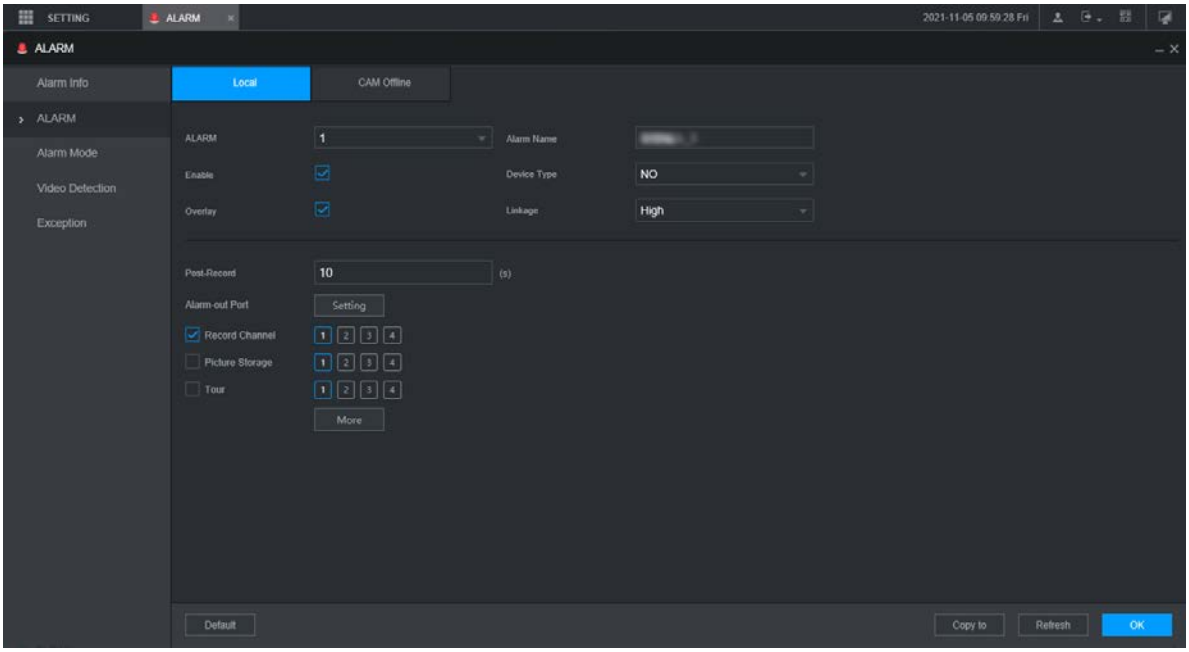
Step 5 Click **OK**.

5.1.2 Configuring Alarm Input Settings

You can select different types of input according to different sources of alarm and set up alarm output methods.

Step 1 On the main web interface, select **ALARM > ALARM > Local**.

Figure 5-4 Alarm input



Step 2 Click **Local** or Camera **Offline** tab as needed.

- Local: The alarm signal detected by the alarm input port on the device.
- Camera Offline: The alarm signal generated when the IP camera is offline.

Step 3 Select the **Alarm In** channel number and select **Enable**.

For emergency alarm button, you can only select Channel **10** from the **Alarm In** drop-down list. When you press the emergency alarm button, the Recorder will receive the emergency alarm from Channel **10**.

Step 4 Configure more settings.

Table 5-2 Alarm input parameters

Parameter	Description
Alarm name	Enter a customized alarm name.
Type	If the **Event Type** is **Local Alarm**, configure this parameter. ● **NO**: The alarm signal is disconnected normally. The alarm is triggered when alarm signal is connected. ● **NC**: The alarm signal is connected normally. The alarm is canceled when alarm signal is disconnected.
Overlay	Select the **Overlay** check box to overlay alarm names onto channel images.
Trigger	If the **Event Type** is **Local Alarm**, configure this parameter. If the alarm signal is 12V/24V voltage, select **High** as the triggering mode; if the alarm signal is ground voltage, select **Low** as the triggering mode.
Post record	When an alarm ends, the alarm recording will stop after a period of delay.
Alarm out	Connect the alarm device such as light and siren to the alarm output port. Select the corresponding check box and set an alarm output device. With the alarm linkage output port enabled, when an alarm event occurs, the system links the alarm device to trigger an alarm.

Latch	Click **Setting** under **Alarm Out** to set the latch. Set a length of time during which the device continues alarm output after the alarm ends.
Record channel	Select the corresponding check box and set a record channel. When an alarm event occurs, the corresponding channel starts recording automatically. Two more conditions must be satisfied before recording function works: ● Alarm recording is enabled. ● Auto recording is enabled.
Snapshot	Select the corresponding check box and set the channel. When an alarm event occurs, the corresponding channel starts capturing automatically. You can also configure the frequency, size, and quality of the snapshots.
Tour	Select the corresponding check box and the channel. When an alarm event occurs, a tour of the selected channels is displayed on the device local interface. When the alarm linkage tour is finished, the Live interface returns to the window split mode as before the alarm occurs.
Anti-dither	Click **More** to set the anti-dither time. The system records only one alarm input event during this period.
Show message	Click **More**, and select the corresponding check box to trigger a pop-up message in your local host PC when an alarm event occurs.
Buzzer	Click **More**, and select the corresponding check box to trigger a buzzer noise on the device when an alarm event occurs.
Log	Click **More**, and select the corresponding check box to enable the device to create a local alarm log when an alarm event occurs.
Send email	Click **More**, and select the corresponding check box. When an alarm event occurs, the system sends email to the specified mailbox. Set your e-mail first before enabling this function.

Step 5 Click **OK**.

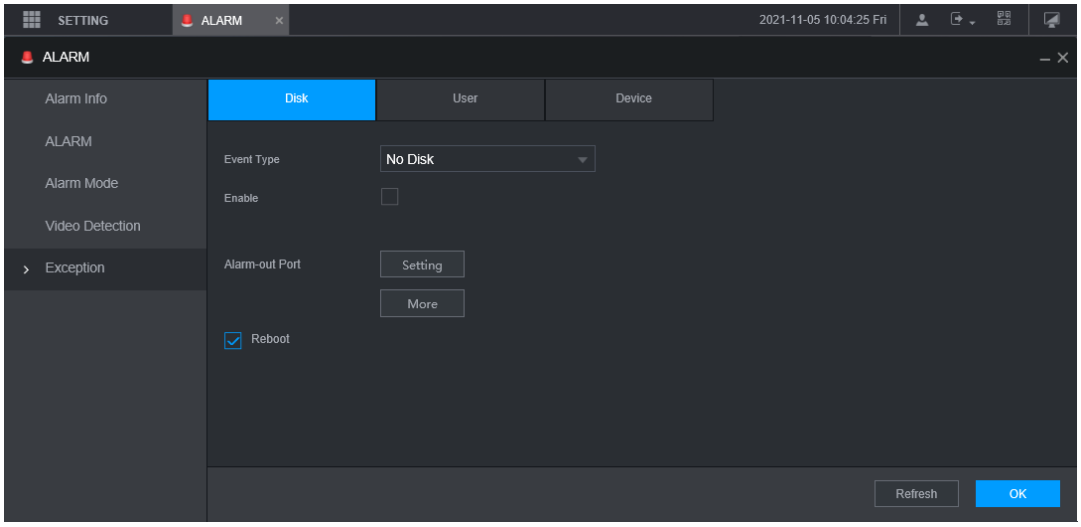
5.1.3 Configuring Exception

You can configure the ways to handle the device when errors occur.

Step 1 On the main web interface, select **ALARM > Exception > Disk**.

The **Disk** interface is displayed. See Figure 5-5

Figure 5-5 Disk



Step 2 Select the event type, and select **Enable** to enable the handling of corresponding abnormal events.

Step 3 Configure more settings. See Table 5-3.

Table 5-3 Abnormality setting parameters

Parameter	Description
Event type	You can configure corresponding abnormal events on the following three tabs. ● HDD: To set the ways to handle abnormal HDD events, including No HDD, HDD Errors, HDD No Space. ● User: Set the ways to handle illegal login events. ● Device: Set the ways to handle abnormal device events, including Temperature Too High, Low Battery Safety Exception, Network Security Exception, Over Speed, Low Speed, Collision, Turnover, Rapid Turn, Rapid Speedup, Sharp Brake and ACC Power Off. The event type might be different depending on the model you purchased, and the actual interface shall prevail.
Lower Than	Select **Disk** tab, and if the **Event Type** is **Low Space**, configure this parameter. You can set the percentage of Disk remaining space. When Disk remaining space is lower than this percentage, an alarm will occur.
Login Attempt	Select **User** tab, and if the **Event Type** is **Illegal Login**, configure this parameter. The maximum number of allowed password input errors during user login. If the number of password input errors reaches this value, the user account will be locked.
Lock time	Select **User** tab, and if the **Event Type** is **Illegal Login**, configure this parameter. Set the time for locking the user account when the number of password input errors reaches the set value.
High Temperature	Select **Device** tab, and if the **Event Type** is **High Temperature**, configure this parameter. Enter the upper limit of device temperature. The alarm is triggered when the device temperature exceeds this value.
Lower Than	Select **Device** tab, and if **Event Type** is **Battery Low Voltage**, configure this

Auto	parameter.
Accumulator voltage	The supply voltage to the device from the vehicle and the percentage of available supply voltage capacity. When the vehicle is in ACC Off, and the voltage supplied to the device is less than the percentage of available capacity, the system triggers an alarm.
Max speed	Select **Device** tab, and if the **Event Type** is **Over Speed**, configure this parameter. The upper limit of vehicle speed. When the vehicle speed exceeds this value, the system triggers an alarm.
Min speed	Select **Device** tab, and if **Event Type** is **Low Speed**, configure this parameter. The lower limit of vehicle speed. When the vehicle speed is lower than this value, the system triggers an alarm.
Alarm output	Connect the alarm device such as light and siren to the alarm output port. Select the corresponding check box and set an alarm output device. With the alarm linkage output port enabled, when an alarm event occurs, the system links the alarm device to trigger an alarm.
Latch	Click **Setting** under **Alarm Out** to set the latch. Set a length of time during which the device continues alarm output after the alarm ends.
Show message	Click **More**, and select the corresponding check box to trigger a pop-up message in your local host PC when an alarm event occurs.
Send email	Click **More**, and select the corresponding check box. When an alarm event occurs, the system sends email to the specified mailbox. Set your e-mail first before enabling this function.
Buzzer	Click **More**, and select the corresponding check box to trigger a buzzer noise on the device when an alarm event occurs.
System log	Click **More**, and select the corresponding check box to enable the device to create a local alarm log when an alarm event occurs.
Refresh	Select the **Refresh** check box. If No Disk alarm occurs, the system restarts within three minutes.

Step 4 Click **OK**.

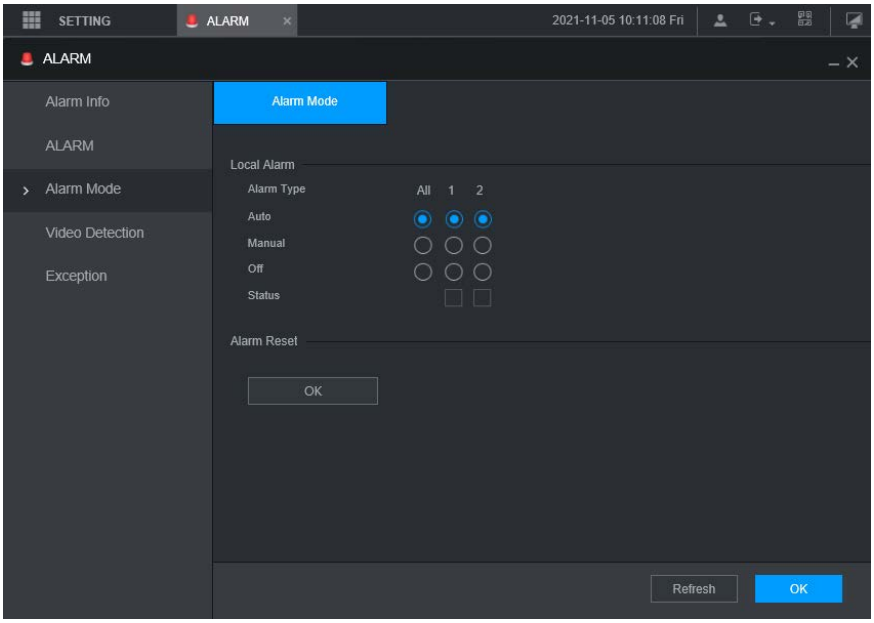
5.1.4 Configuring Alarm Out Settings

You can set the alarm output type.

Step 1 On the main web interface, select **ALARM > Alarm Mode**.

The **Alarm Mode** interface is displayed.

Figure 5-6 Alarm mode



Step 2 Select alarm type.

- Auto: After the alarm linkage is configured, when an alarm event occurs, the corresponding alarm output port triggers an alarm.
- Manual: After the alarm linkage is configured, no matter whether there is an alarm event occurs, the corresponding alarm output port triggers an alarm.
- Stop: After the alarm linkage is configured, no matter whether there is an alarm event occurs, the corresponding alarm output port never triggers an alarm.

Step 3 Click **OK**.

Status: Indicates the status of each alarm output port. ☑ indicates there is an alarm output, and ☐ indicates there is not.

5.2 Configuring AI Settings

AI features include: DSM, face detection, face recognition, alarm upload, plate number detection and passenger flow measurement. Only when the AI feature is enabled and set can the corresponding function take effect.

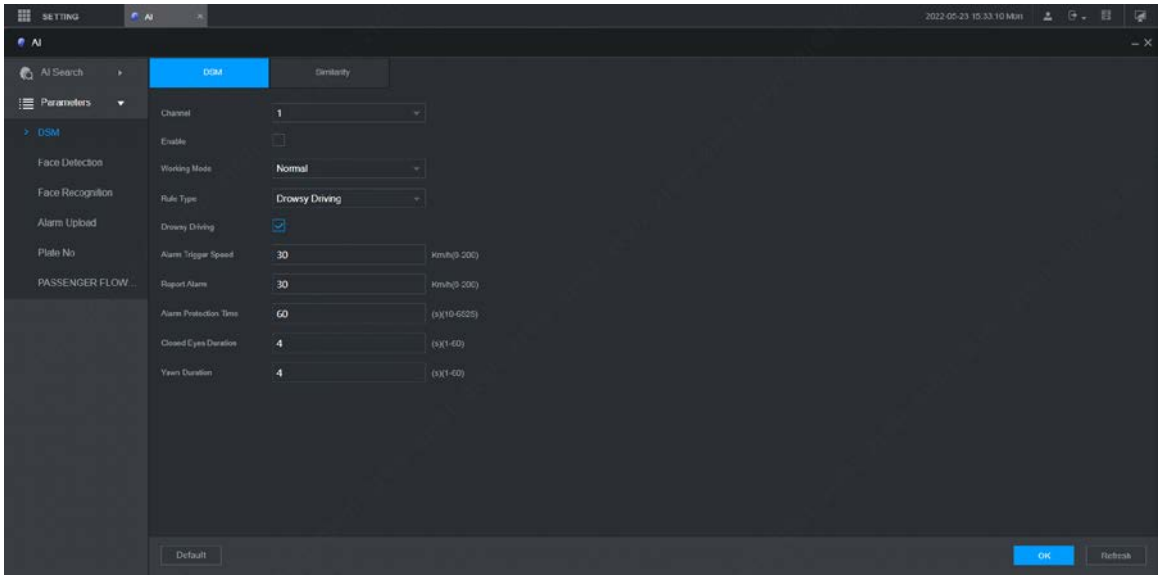
5.2.1 DSM

DSM alarms mainly include drowsy driving, distracted driving, calling when driving, driver not in position, wearing infrared-blocking sunglasses, smoking when driving, and camera being shielded. After being triggered, these alarms require voice broadcast by means of TTS and need to be uploaded to the platform.

Step 1 On the main web interface, click **AI > Parameters > DSM**.

The **DSM** interface is displayed. See Figure 5-7.

Figure 5-7 DSM



Step 2 Click **Enable** to enable the DSM alarm.

Step 3 Configure parameters. For details, see Table 5-4.

Table 5-4 DSM parameter description

Parameter	Description
Channel	The DSM is fixed to channel 1.
Working mode	Vehicle working modes include normal mode and test mode.
Rule type	For alarm rules, you can select drowsy driving, distracted driving, calling when driving, no driver, wearing IR blocking sunglasses, smoking when driving, smoking, lens tempering, unbelted alarm, identity exception and substitution driving (not the correct driver). ● ID exception: When the vehicle is started but not running (driving speed remains lower than 5 km/h within 5 s), the Recorder will compare driver face against the DSM face database. If the last driver face is not in the DSM face database, there is an ID exception warning once the vehicle starts to run (driving speed hits 30 km/h). ● Substitution Driving: An alarm is triggered when the driver is changed on the road. The drivers must be in the DSM face database. Otherwise there might be an ID exception alarm.   means the corresponding alarm is enabled.
Alarm trigger speed	The speed at which the alarm is triggered: The range is 0 km/h–200 km/h.
Report alarm	The speed at which the alarm is uploaded to the platform: The range is 0 km/h–200 km/h.
Alarm protection time	Continuous alarm time: The range is 10s–6525s.
Closed eyes duration	Setting is necessary when the rule type is **Drowsy Driving**: The range is 1s–60s.
Yawn duration	

Duration of lowering head	Setting is necessary when the rule type is **Distracted Driving**: The range is 1s–60s.
Duration of looking around	
Duration of calling	Setting is necessary when the rule type is **Calling**: The range is 1s–60s.
Duration of driver not in position	Setting is necessary when the rule type is **No Driver**: The range is 1s–60s.
Duration of wearing infrared-blocking sunglasses	Setting is necessary when the rule type is **Wearing IR Blocking Sunglasses**: The range is 1s–60s.
Duration of smoking	Setting is necessary when the rule type is **Smoking**: The range is 1s–60s.
Duration of acceleration when camera is shielded	Setting is necessary when the rule type is **Lens Tampering**: The range is 1s–60s.

Step 4 Click **OK**.

5.2.2 Face Detection and Recognition

5.2.2.1 Face Detection

The system can analyze and process the video images collected by cameras, and detect whether there are faces in the video images. You can find the videos with detected faces through AI search and play back these videos.

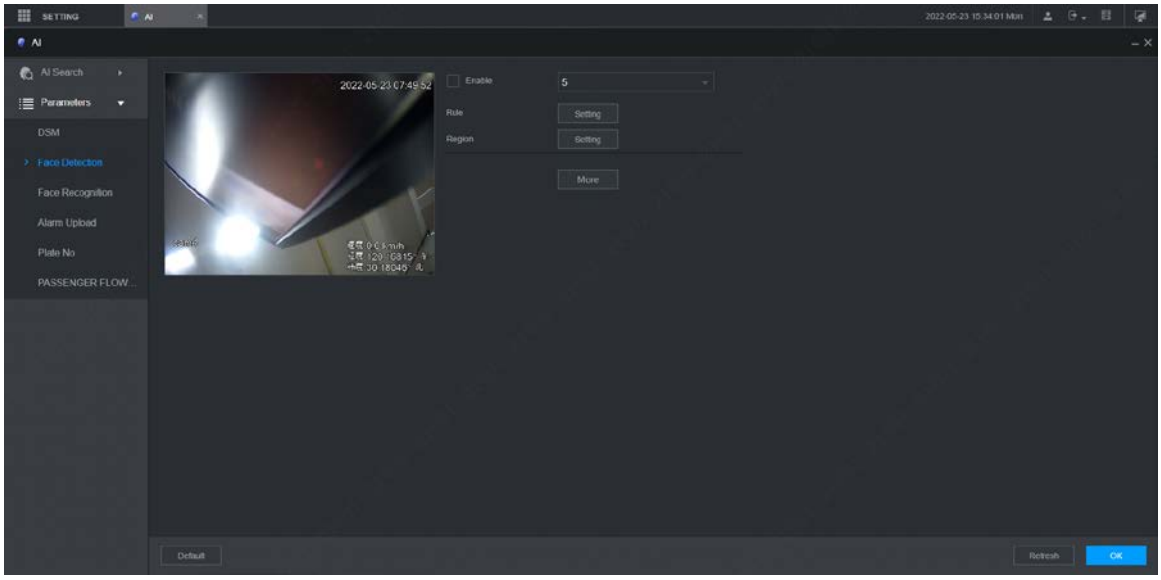
5.2.2.1.1 Parameter Settings

You can set up face detection parameters. When specific face information is detected, the system will trigger alarm linkage.

Step 1 On the main web interface, select **AI > Parameters > Face Detection**.

The **Face Detection** interface is displayed. See Figure 5-8.

Figure 5-8 Face detection



Step 2 Select the channel number and select **Enable** to enable face detection.

You can select any channel except channel 1.

Step 3 Configure parameters. See Table 5-5 for details.

Table 5-5 Face detection parameters

Parameter	Description
Rule	1. Click **Setting**. 2. Set the maximum size and minimum size of the face detection region. Press and hold the left mouse button and drag four corners of the blue box to adjust the size. ● Faces smaller than the minimum size or bigger than the maximum size will not be detected. ● The maximum size cannot be smaller than the minimum size.
Region	Click **Setting**. Set up the face detection region.
Buzzer	Click **More** and select **Buzzer**. Activate a buzzing sound when an alarm is triggered.
System log	Click **More** and select **Log**. Record face detection log information in the system log.

Step 4 Click **OK**.

5.2.2.1.2 AI Search

You can set up search parameters and filter out specific face recordings for playback.

Procedures

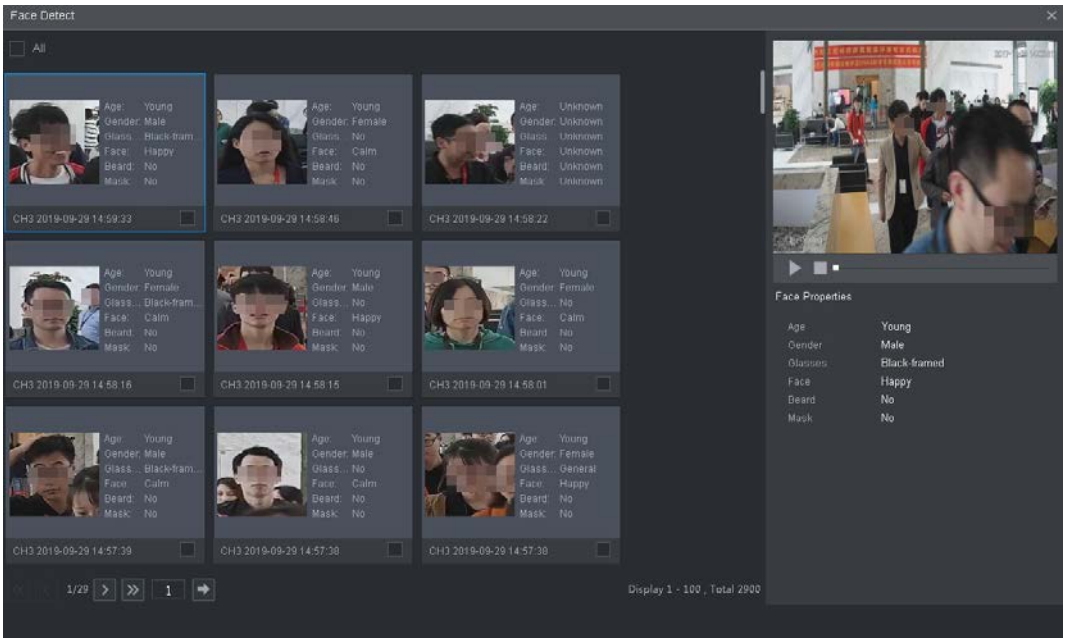
Step 1 On the main web interface, select **AI > AI Search > Face Detection**.

Step 2 Select the channel, start time and end time, and select face detection details (such as gender, age, glasses, beard, mask and face) as needed.

Step 3 Click **Search**.

The search results are displayed. See Figure 5-9.

Figure 5-9 AI search result (1)



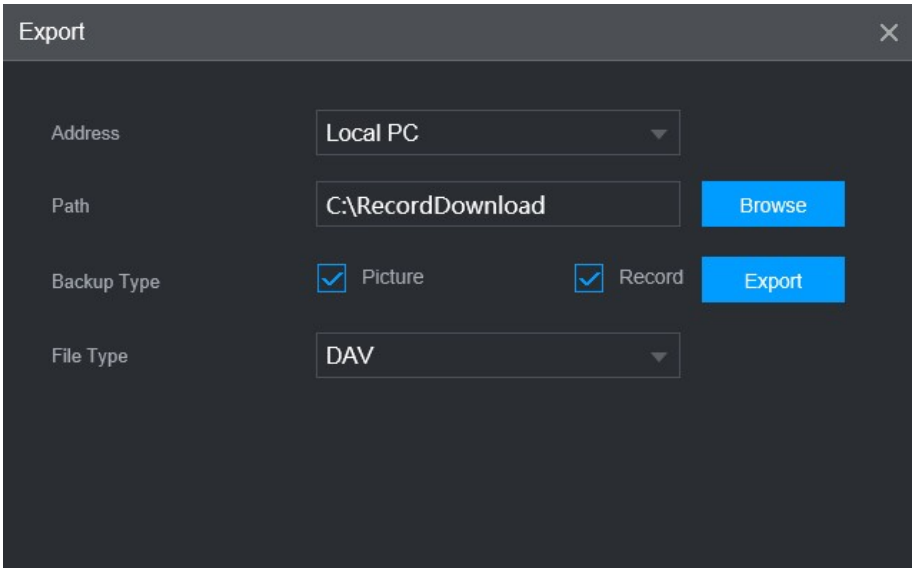
Step 4 Select the face image you need to view, and click . The system starts playing back the video file that the image belongs to.

Double-click the playback interface to switch between full screen and small screen.

Step 5 (Optional) Back up files.

1) Select files and click Backup.
   The **Export** interface is displayed. See Figure 5-10.
2) Select the backup address, path, backup type and file type, and click Export.
   File backup is completed.

Figure 5-10 Export (1)



5.2.2.2 Face Recognition

The face recognition function can be used in two scenarios: AI Live and AI Search.

- In AI Live, the system can compare the detected faces with the faces in the configured face library, and display the results in AI Live interface.
- In AI Search, the system can search by face attributes or image comparison.

Before enabling the face recognition function, enable the face detection function for the channel first.

5.2.2.2.1 Face Library Management

After successfully configuring the face library, the detected faces are compared with the information in the face library. Configuring a face library includes creating a face library, adding face images, and modeling faces.

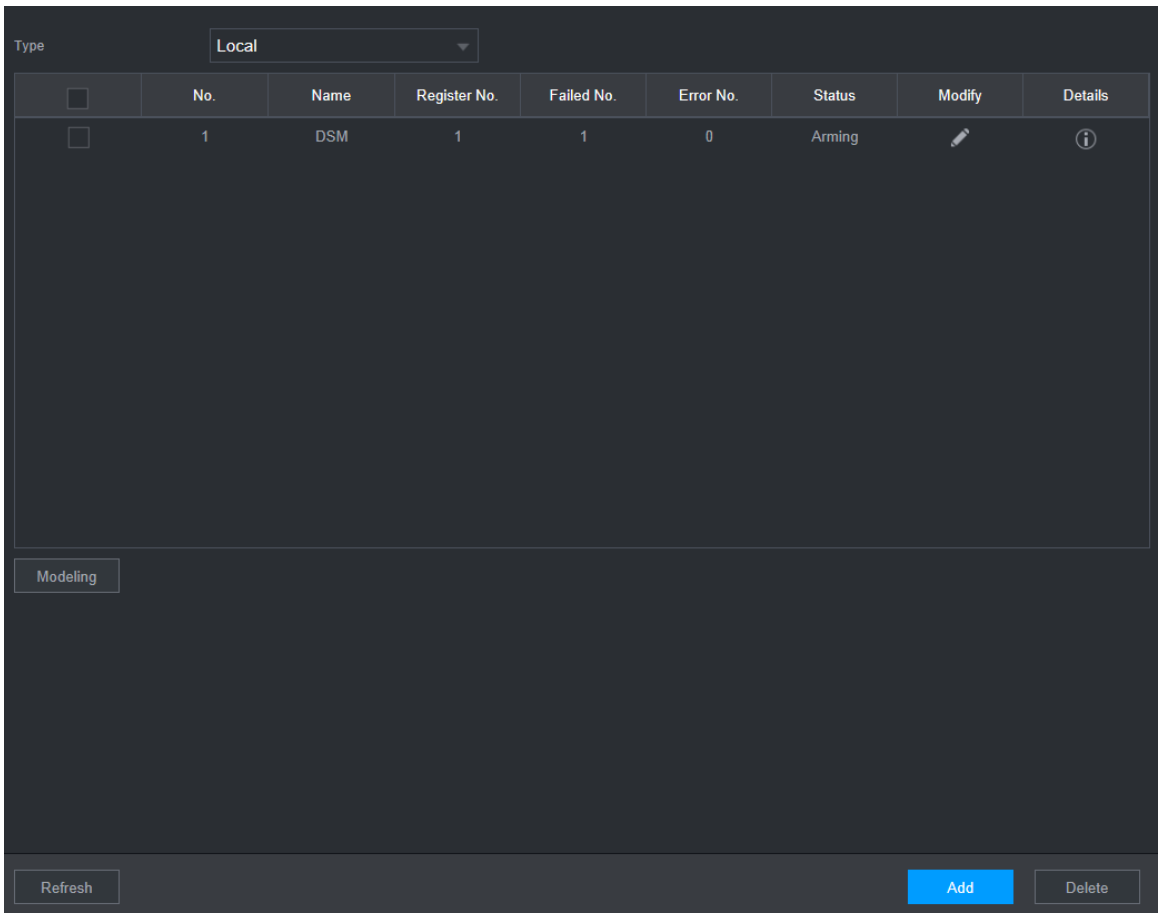
You can create up to 20 face libraries and register up to15MB face images.

- To protect privacy, the faces in the images have been blurred intentionally.
- The default face library DSM of the system is used to receive the driver's face information issued by the platform. The library does not support adding, deleting or modifying.
- DSM and General exist by default in the face library.
  - ◇ DSM: Driver library (By default, it is bound to all channels, but it is only armed in channel 1.)
  - ◇ General: Passenger library (By default, it is bound to all channels, but it is only armed except channel 1.)

Creating Face Library

Step 1 On the main web interface, select **AI > Database> FACE LIBRARY**.
The **FACE LIBRARY** interface is displayed. See Figure 5-11.

Figure 5-11 Face library (1)

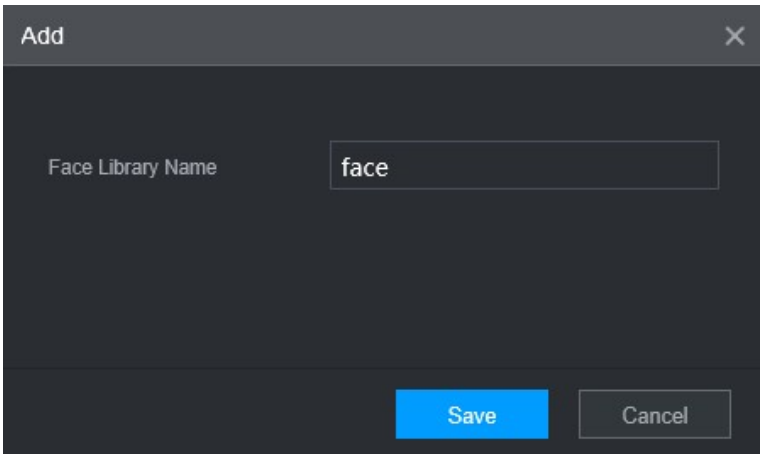


There is a DSM face library by default. It is configured from the platform, and cannot be modified and removed on the Recorder.

Step 2 Click **Add**.

The **Add** interface is displayed. See Figure 5-12.

Figure 5-12 Add



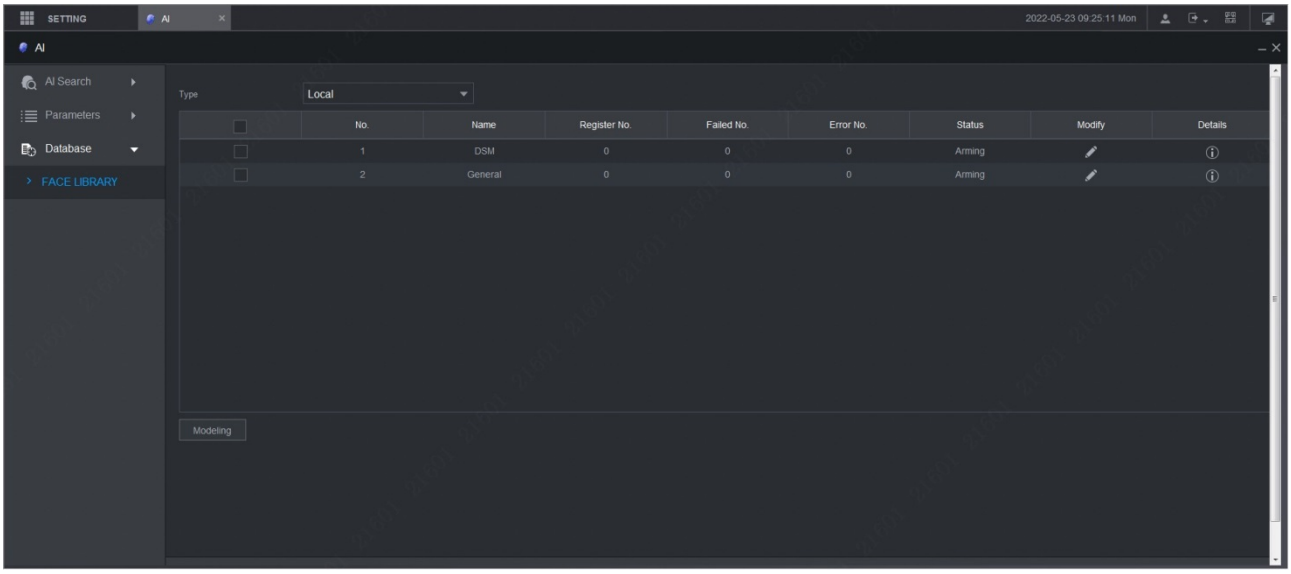
Step 3 Enter Face Library Name and click Save.

The face library is saved successfully, and the **FACE LIBRARY (2)** interface is displayed. See Figure 5-13.

- Click the corresponding  in the face library list to modify the face library name.

- Click the corresponding in the face library list to add face images to the face library.
- Select a face library and click **Modeling**. The system will extract the feature attributes of images in the face library for subsequent face recognition.
- Select a face library and click **Del** to delete it.

Figure 5-13 Face library (2)



Adding Face Images

You can add face images to the created face library, and single add and batch import are both supported.

Both single add and batch import require to obtain face images from the USB flash drive. Images should be smaller than 256K with resolution from 200×200 through 6000×5000.

Single Add

You can add face images one by one. When registering a small number of face images, use this method.

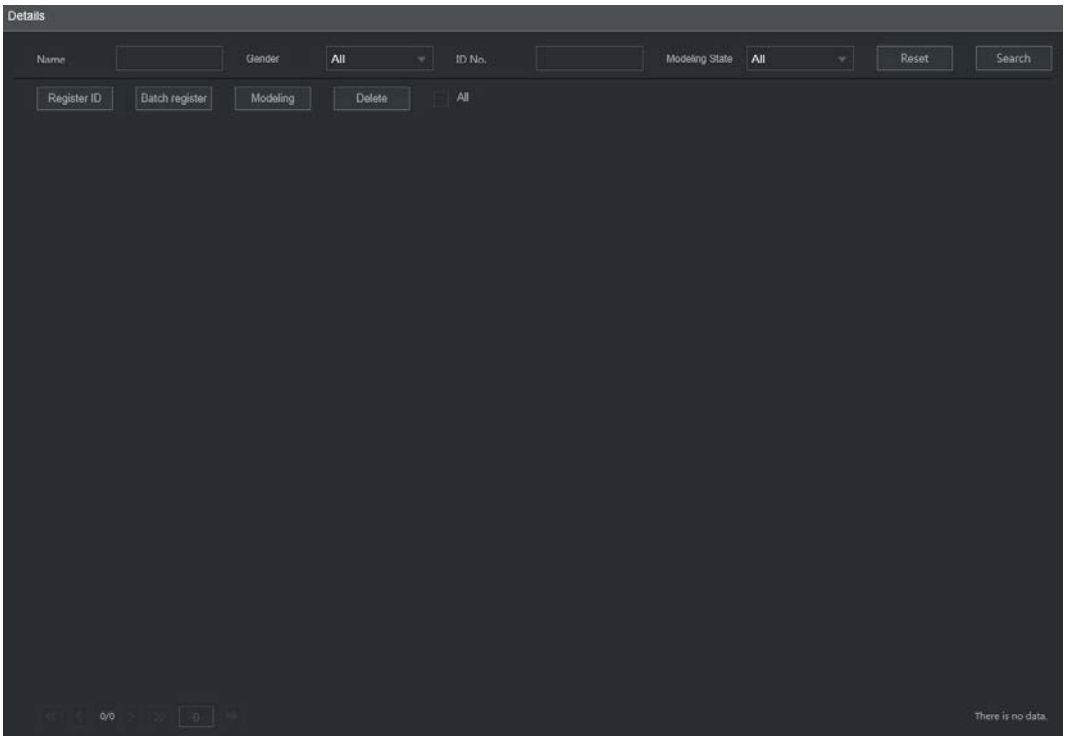
Step 1 On the main web interface, select **AI > Database> FACE LIBRARY**.

The **FACE LIBRARY** interface is displayed. See Figure 5-13.

Step 2 Click corresponding to the face library to be configured.

The **Details** interface is displayed. See Figure 5-14.

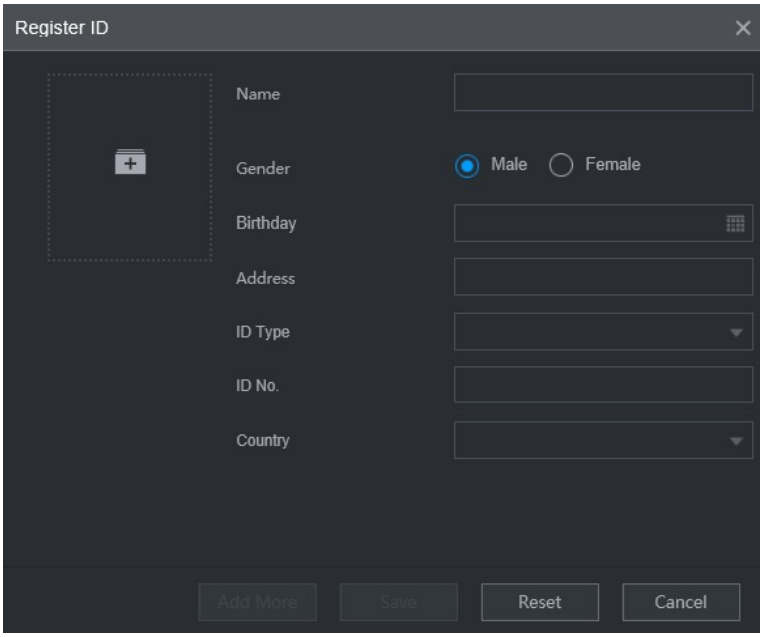
Figure 5-14 Details (1)



Step 3 Click Register ID.

The **Register ID** interface is displayed. See Figure 5-15.

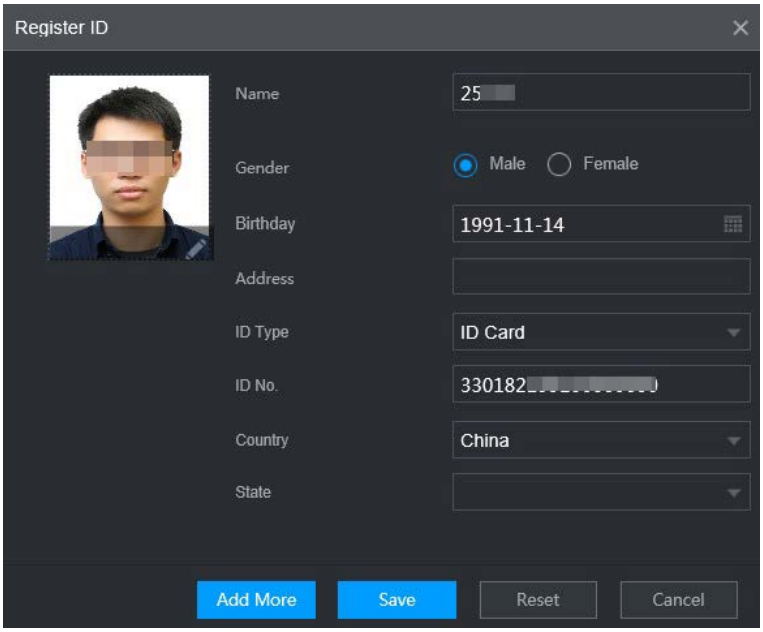
Figure 5-15 Register ID (1)



Step 4 Click  to add face photos.

Select a picture and fill in registration information. For system display, see Figure 5-16.

Figure 5-16 Register ID (2)

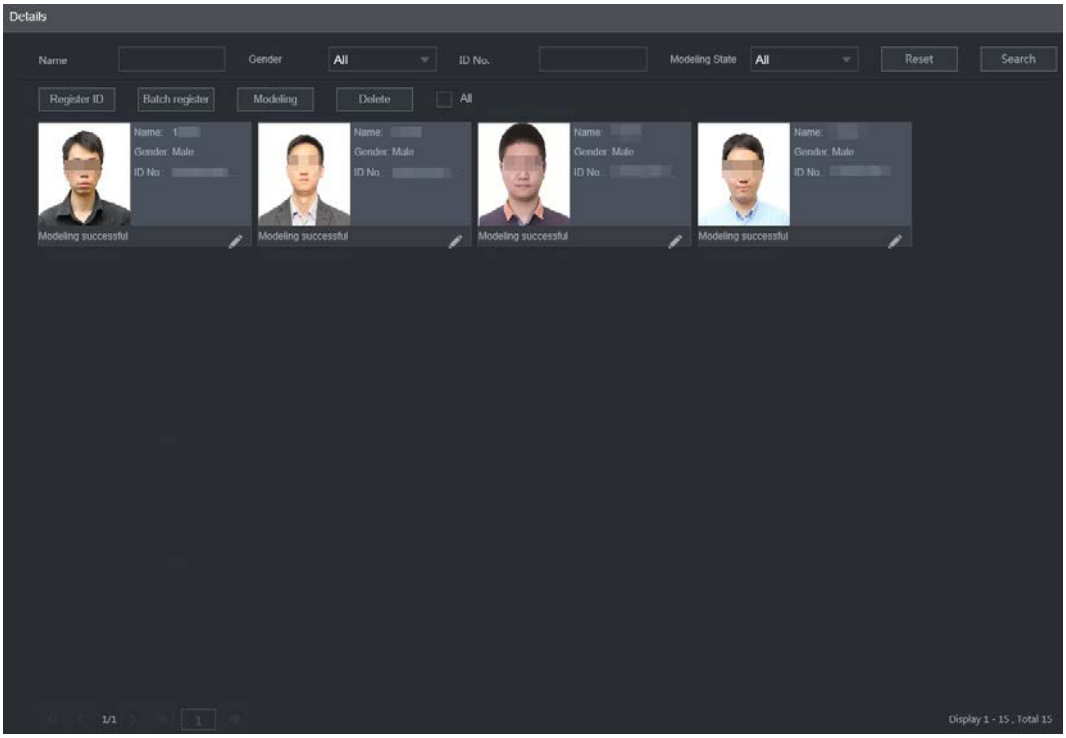


Step 5 Click **Save**.

The system displays "Operation is done successfully" and returns to the **Details** interface. See Figure 5-17.

If face image shows "Modeling", it means that the system is extracting the feature attributes of the photo. Click **Search** to refresh the interface, and "Modeling succeeded" is displayed. If modeling fails, the photo cannot be used for face recognition.

Figure 5-17 Details (2)



Batch Add

If there are many face images to be registered, you can use the batch add function to import face images in batch.

Step 1 Name the face images in the format of "Name#SGender#BBirthday#NCountry#PProvince#TIDType#MID No.#AAddress.jpg." For details, see Table 5-5.

Name is required and the rest are optional.

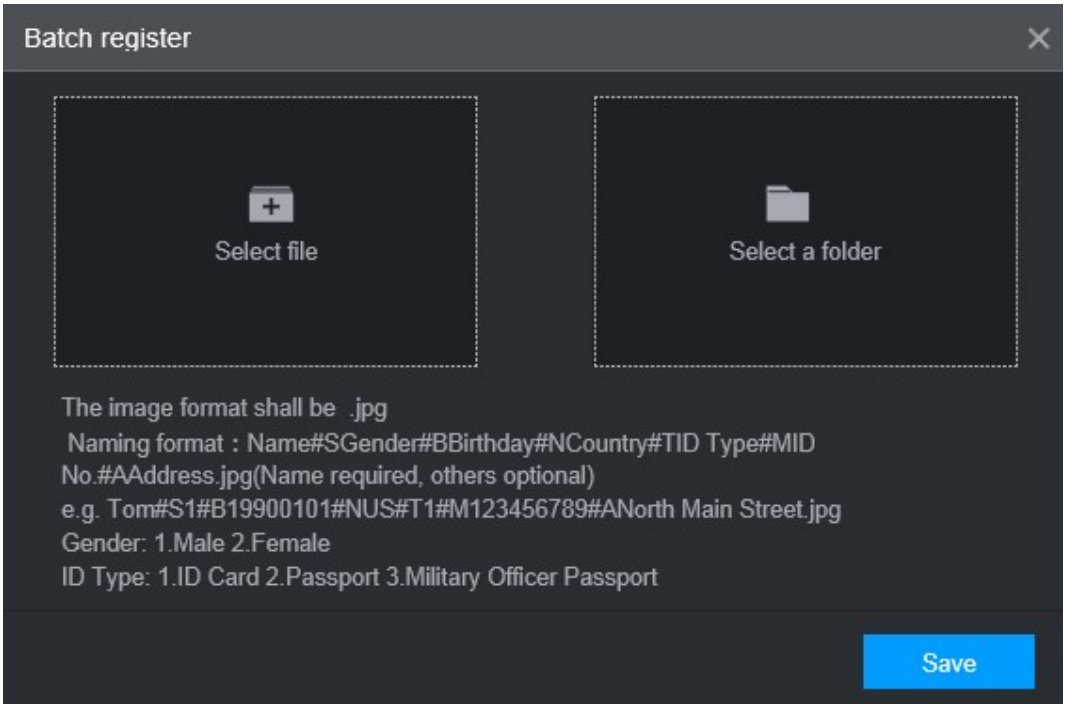
Table 5-6 Naming rules for batch import

Item	Description
Name	Enter the corresponding name.
Gender	Enter number 1 for male and 2 for female.
Birthday	Fill in the number in the format of yyyy-mm-dd, for example, 2017-11-23.
Country	Enter the corresponding country abbreviation.
Province	Fill in the English name of the province.
ID Type	Fill in the numbers, "1" for ID card, "2" for passport, and "3" for military officer passport.
ID No.	Fill in the ID number.
Address	Enter the corresponding residence address.

Step 2 On the face library details interface, click **Batch register**.

The **Batch register** interface is displayed. See Figure 5-18.

Figure 5-18 Batch register



Step 3 Click **Select file** (up to 500 images at a time) or **Select a folder** to select a file path to import the images.

Step 4 Click **Save**.

5.2.2.2.2 Configuring Face Recognition Settings

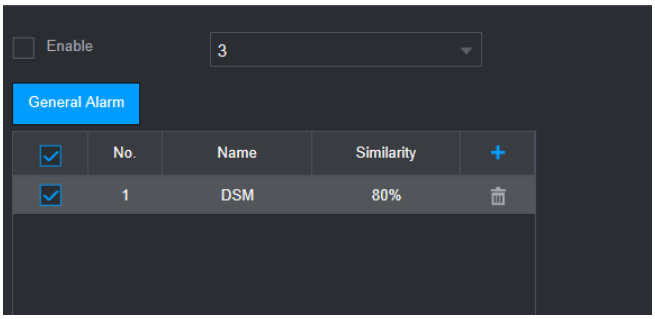
The system compares the detected faces with the faces in the face library to see whether the detected faces are in the face library. The comparison results are directly displayed in the AI Live interface and AI Search interface, and the system triggers alarm linkage.

Procedure

Step 1 On the main web interface, select **AI > Parameters > Face Recognition**.

The **Face Recognition** interface is displayed. See Figure 5-19.

Figure 5-19 Face recognition (1)



Step 2 Select the channel number. Select **Enable** to enable the face recognition function.

Step 3 Select the type.

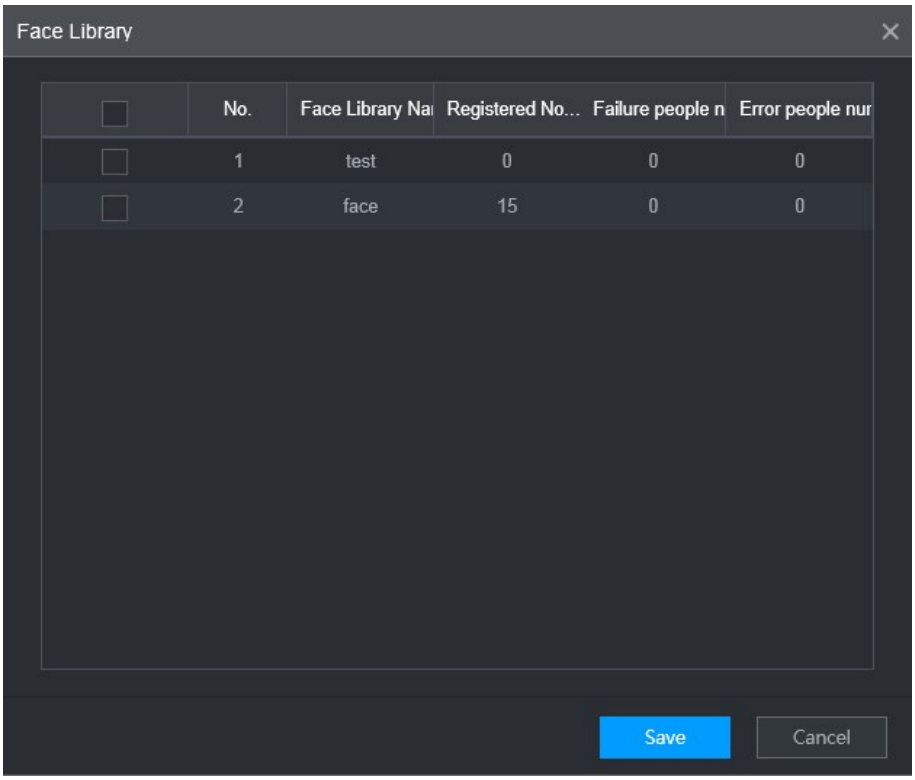
Only AI by Device is supported.

Step 4 Set face library.

1) Click .

The **Face Library** interface is displayed. See Figure 5-20.

Figure 5-20 Face library



2) Select one or more face libraries to be added.

3) Click **Save**.

The face library information is displayed.

Step 5 (Optional) Double-click the number under **Similarity** to modify the face recognition similarity.

- The lower the similarity, the higher the probability of triggering face recognition.
- Click  to delete the added face library.

Step 6 Click **Save**.

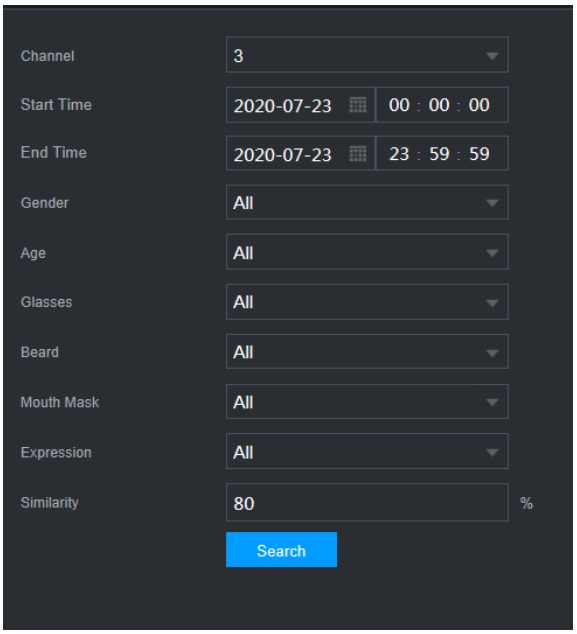
5.2.2.2.3 AI Search

The system can search and compare the faces in the videos and the faces in the face library and play back the recordings.

Step 1 On the main web interface, select **AI > AI Search > Face Recognition**.

The **Face Recognition** interface is displayed. See Figure 5-21.

Figure 5-21 Face recognition (3)

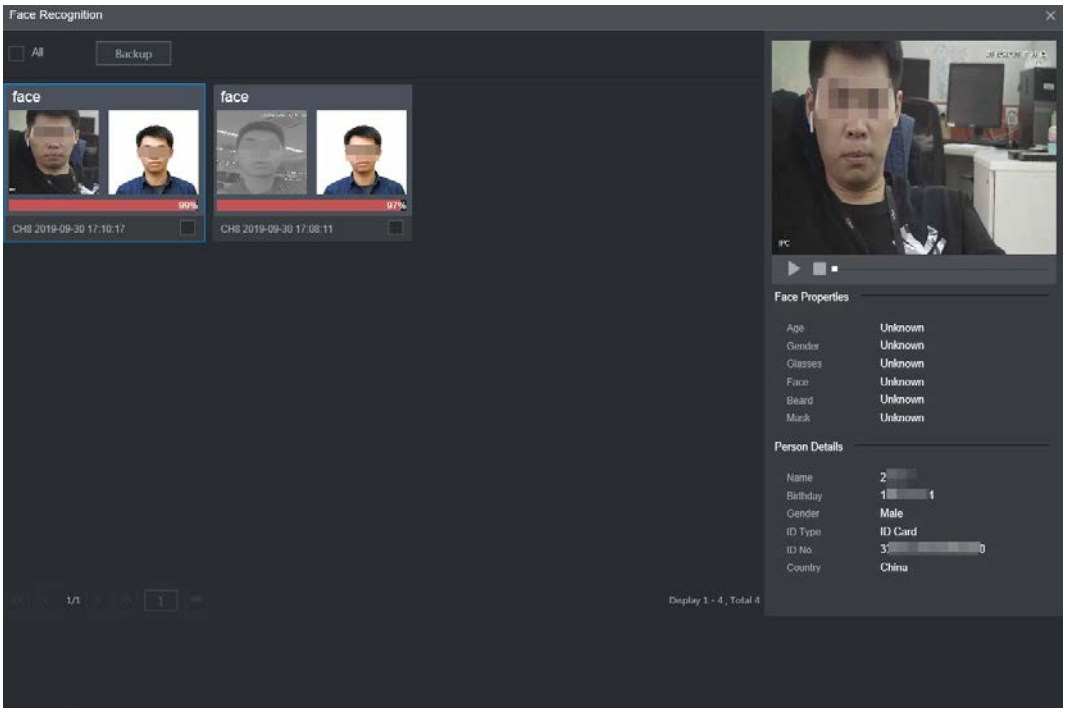


Step 2 Select the channel, start time and end time, and select face recognition details (such as gender, age, glasses, beard, face mask, expression and similarity) as needed.

Step 3 Click **Search**.

The search results are displayed. See Figure 5-22.

Figure 5-22 Attribute search result (2)



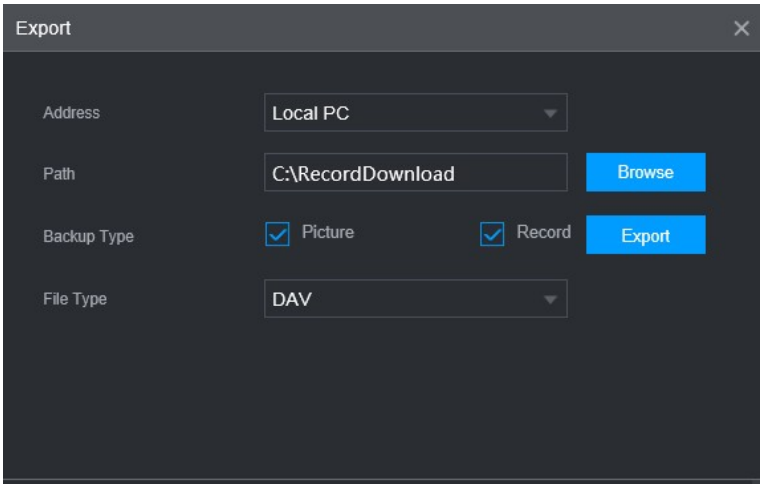
Step 4 Select the face image you need to view, and click . The system starts playing back the video file that the image belongs to.

Double-click the playback interface to switch between full screen and small screen.

Step 5 (Optional) Back up files.

1) Select files and click **Backup**.
   The **Export** interface is displayed. See Figure 5-23.
2) Select the backup address, path, backup type and file type, and click **Export**.
   File backup is completed.

Figure 5-23 Export (2)

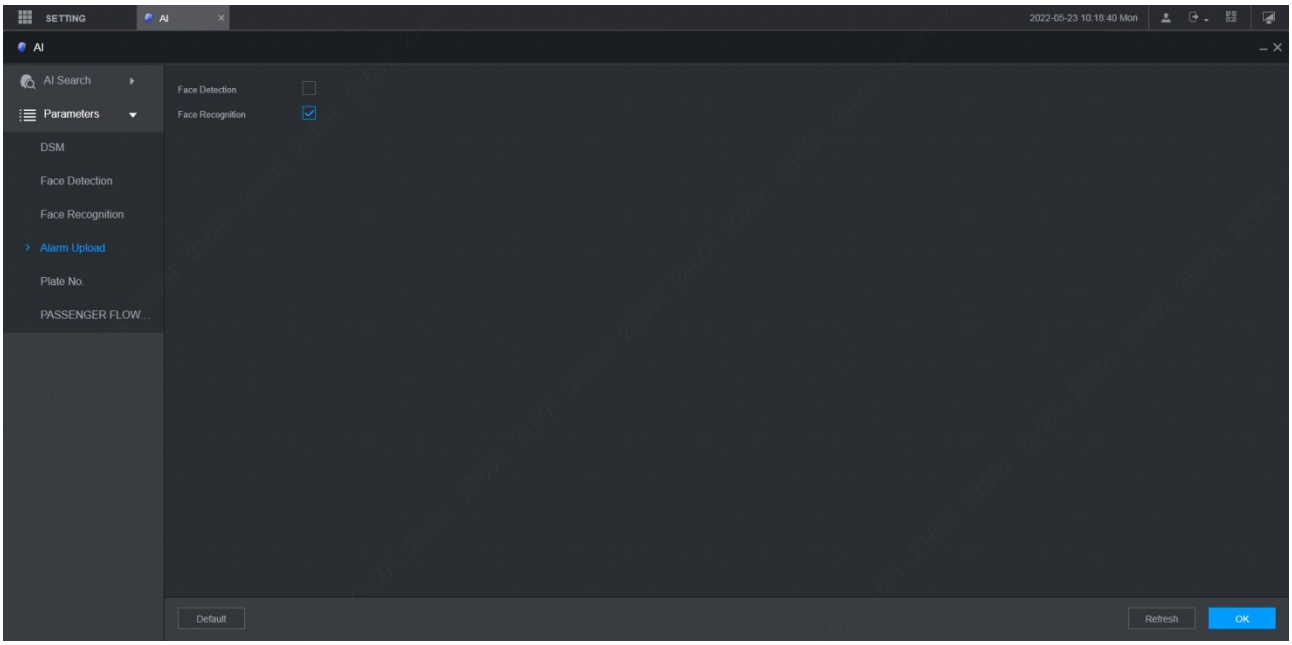


5.2.2.3 Alarm Upload

Enable alarm upload to upload face detection and face recognition data to the platform.

On the main web interface, select **AI > AI Search >Alarm Upload**. The **Alarm Upload** interface is displayed, see Figure 5-24.

Figure 5-24 Alarm Upload



5.2.3 Number Plate

Cameras connected to the Recorder can take snapshots of car plates. On the Recorder configure the area where number plate recognition works. Also, you can search for the car plate and play the corresponding video recording.

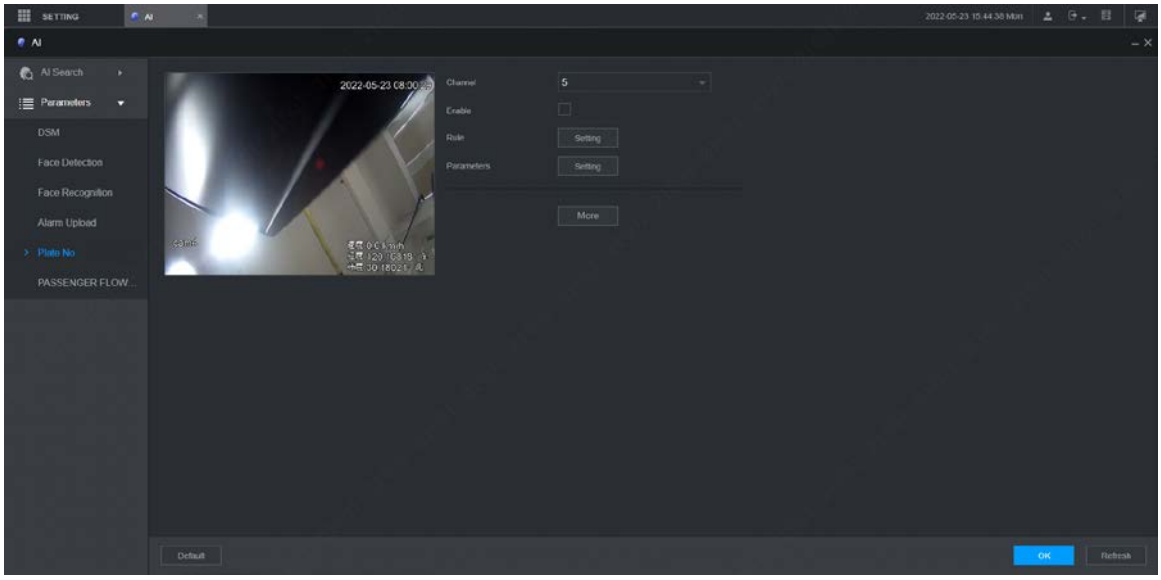
5.2.3.1 Number Plate Detection

Configure number plate detection region and its alarm settings.

Procedure

Step 1 On the main interface, select **AI > Parameters > Plate No**.
The **Plate No** interface is displayed.

Figure 5-25 Plate No (1)



Step 2 Select the channel in which you want to monitor the car plate and select **Enable** to enable the plate recognition function.

Step 3 Draw the plate recognition region. Click **Setting** next to **Rule** and drag the yellow box four corners to adjust the recognition function size or shape.

Step 4 Configure more plate recognition settings. Click **Setting** next to **Parameters**.

3) Sensitivity: The larger the value, the easier plates will be to be detected.
4) Interval: Within the interval, camera will not take snapshot of one plate twice.
5) Frame Rate: Video image frames per second.
6) Plate: When the plate state is blurry in the plate recognition region, use this state information automatically.

Step 5 Set buzzer alarm to give out reminding. Click **More** and select **Buzzer**.

Step 6 To record plate recognition, click **More** and select **Log**.

Step 7 Click **OK**.

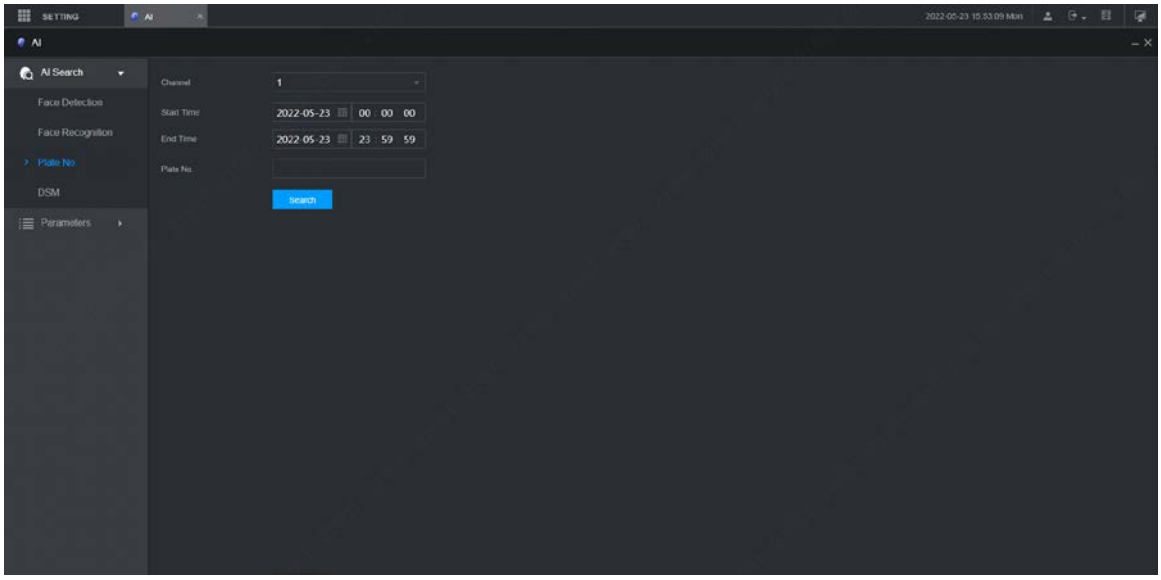
5.2.3.2 Number Plate Recording Search

Search time (or search plate number plus time if you know the plate No.) for the corresponding video recording for you to play and check.

Procedure

Step 1 On the main interface, select **AI > AI Search > Plate No**.
The **Plate No** interface is displayed. See Figure 5-26.

Figure 5-26 Searching plate

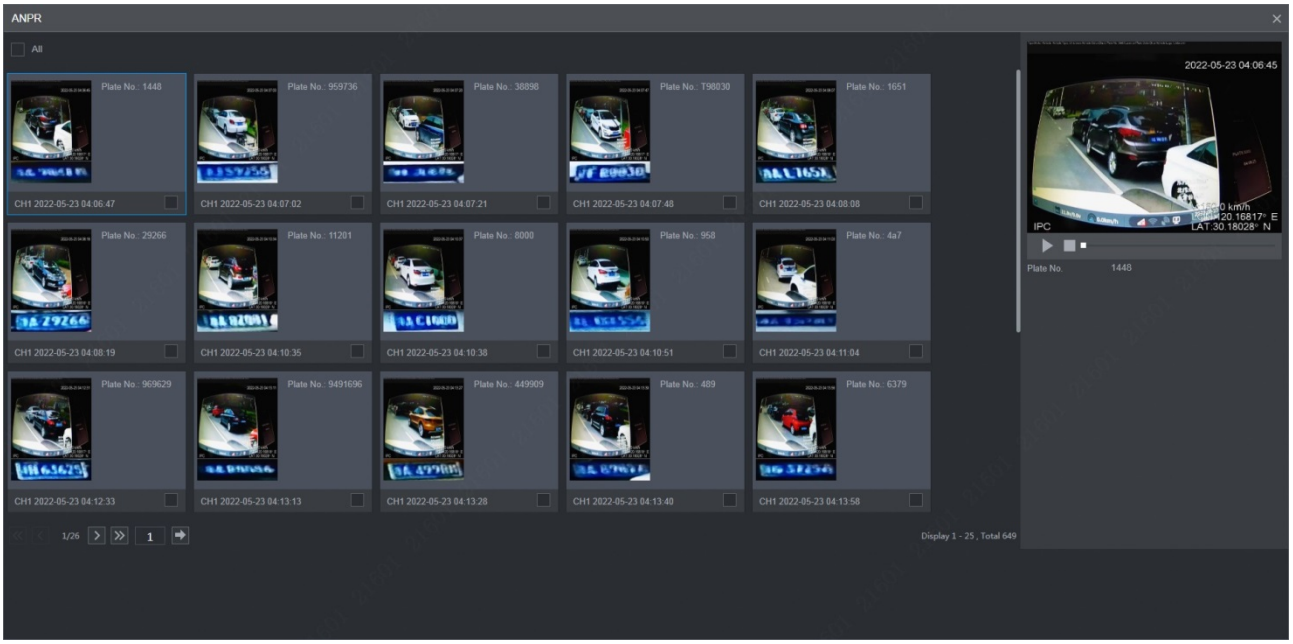


Step 2 Enter a channel, start time, end time. (And enter plate number if you know the plate number.)

Step 3 Click **Search**.

Results are displayed. See Figure 5-27.

Figure 5-27 Smart search results



Step 4 Select the plate item you want to view. Click  to play corresponding video recording.

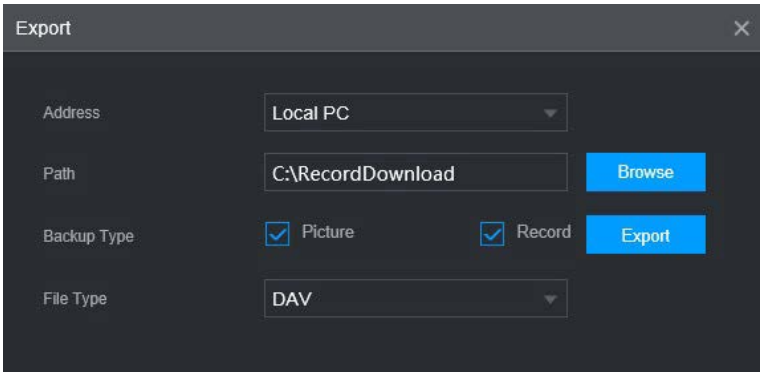
Double-click video recording image to switch playing between full screen and partial screen.

Step 5 Export files.

1) Select files and click **Copy**.

The **Export** interface is displayed. See Figure 5-28.

Figure 5-28 Exporting files



2) Select Address, Path, Backup Type and File Type. Then click Export.

5.2.4 Passenger Flow Measurement

The system can count the number of passengers in and out at each stop.

Preparation

Go to **SETTING > CAMERA > Camera List**, and then click to config people counting rules on the camera. For details, see the camera user's manual.

Procedure

Step 1 On the main interface, select AI > Parameters > Passenger Flow Measurement.

Step 2 Select the **Enable** check box to enable the function.

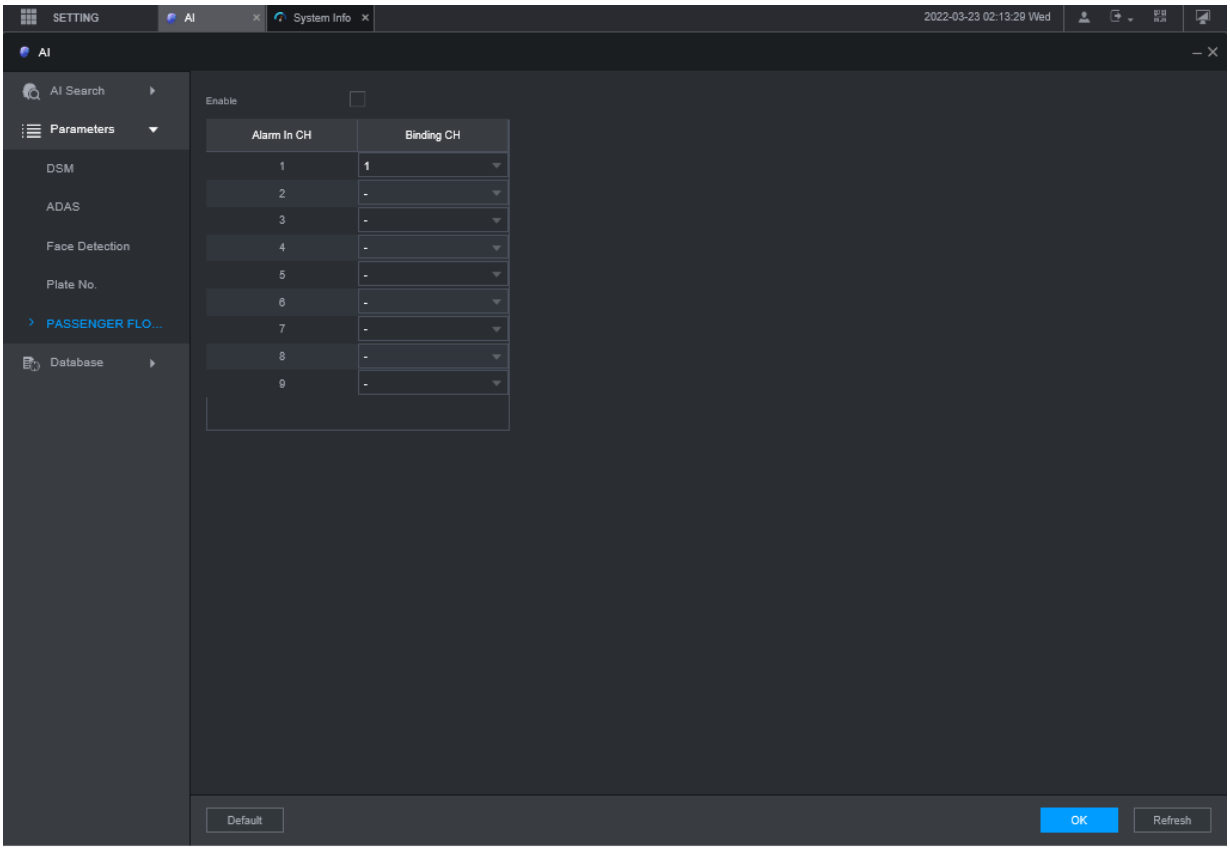
Step 3 Select the specific camera channel from the **Binding CH** column to bind to the corresponding alarm in channel in the **Alarm In CH** column.

The alarm in channels are connected to the doors for detecting door open and close.

For example, if the alarm in Channel 3 is connected to the front door and bound to Camera 3 (overlooking the front door), when the door opens, Camera 3 will start counting the number of people, and when the door closes, the counting stops. The people counting data starts from 0 at each stop.

Step 4 Click **OK**.

Figure 5-29 Config passenger flow measurement

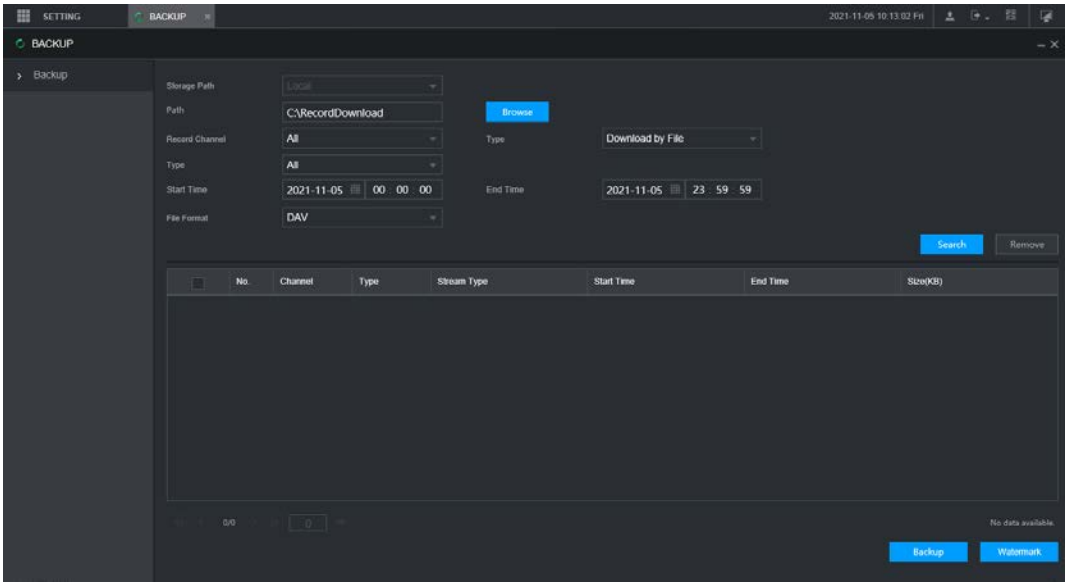


5.3 Backing up File

You can back up video recordings and images.

Step 1 On the main web interface, click **BACKUP**.

Figure 5-30 Backup (1)



Step 2 Configure parameters. For details, see Table 5-7.

Table 5-7 Backup parameters

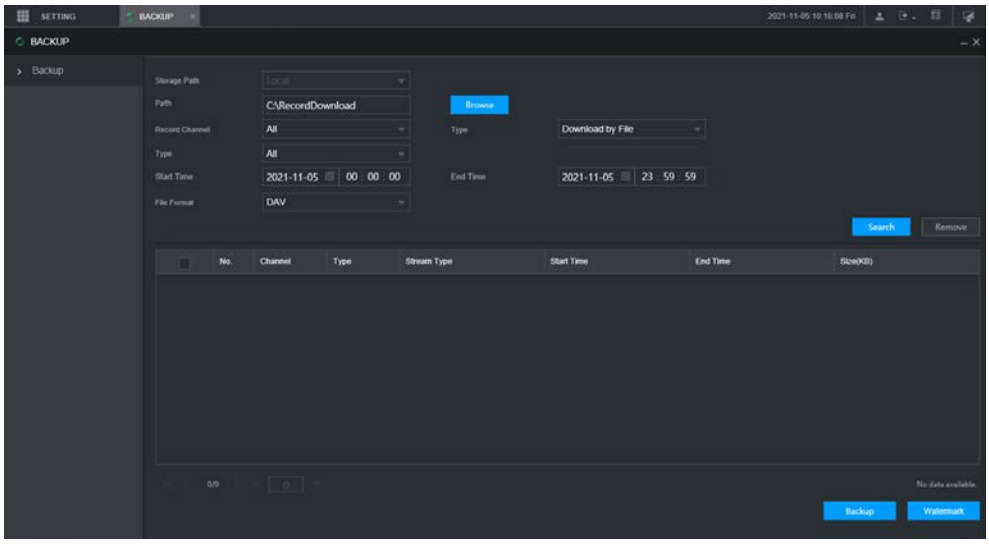
Parameter	Description
Storage Path	Only local address is supported.
Path	File backup path is C://RecordDownload by default. Click **Browse** to set the backup path as needed.
Record Channel	Select the record channel you want to do the backup for.
Download type	Select the backup type, including download by file and download by time.
Start time	Set the file backup period.
End time	
File format	Select the backup file format, including DAV and MP4.
Record type	Select the record type, including external alarm, motion detect, all alarms, normal record, picture, and all.

Step 3 Click **Search**.

The obtained files are displayed.

Step 4 Select the file that you want to back up, and click **Backup**.

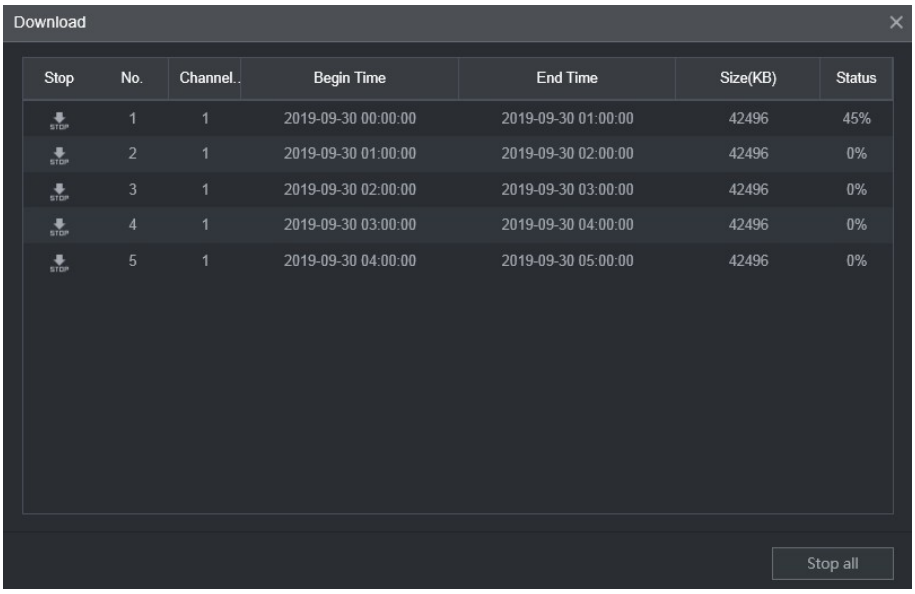
Figure 5-31 Backup (2)



Step 5 Click View Download.

The **Download** interface is displayed. See Figure 5-32.

Figure 5-32 Download



Click **Stop all** to stop downloading.

Step 6 (Optional) Select the file that you want to verify, and click **Watermark**.

Watermark can be used to verify whether the record file is falsified.

The verifying progress and result are displayed.

5.4 Configuring Display Output Settings

You can configure live audio, device tour and video mirror settings.

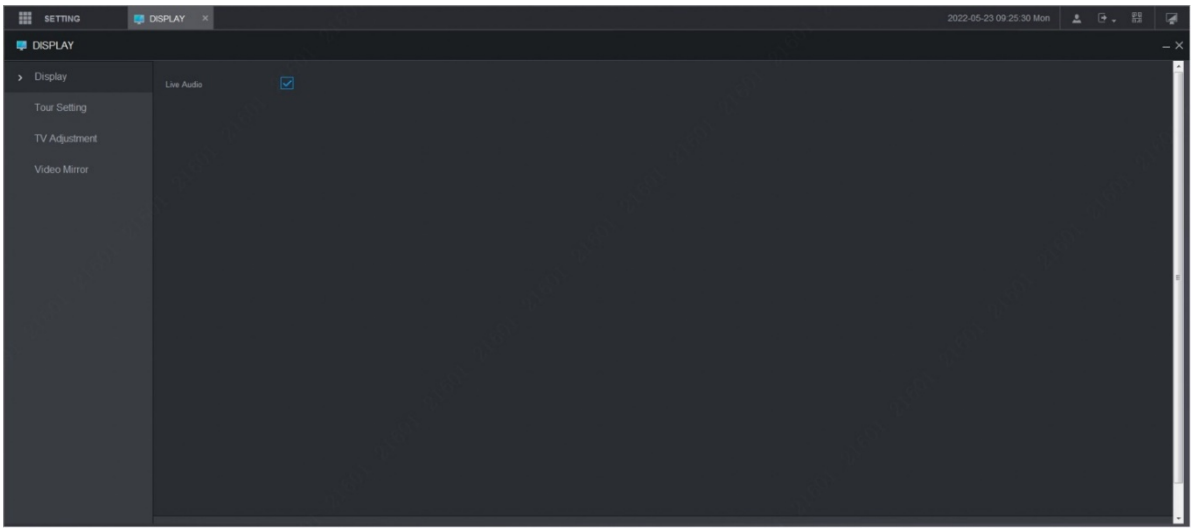
5.4.1 Configuring Live Audio

Step 1 On the main web interface, click **DISPLAY > Display**.

Step 2 Click **Enable** to enable the live audio. See Figure 5-33.

- After enabling, AV, VGA and HDMI are switched to single screen, and the preview sound is output normally.
- If it is not enabled, AV, VGA and HDMI are switched to single screen, and preview sound will not be output. But it does not affect video playback and intelligent alarm voice broadcast sound.

Figure 5-33 Live Audio



5.4.2 Configuring Tour Settings

Step 1 On the main web interface, click **DISPLAY > Tour Setting**.

Step 2 Click **Enable** to enable the tour settings.

Step 3 Configure parameters. For details, see Table 5-8.

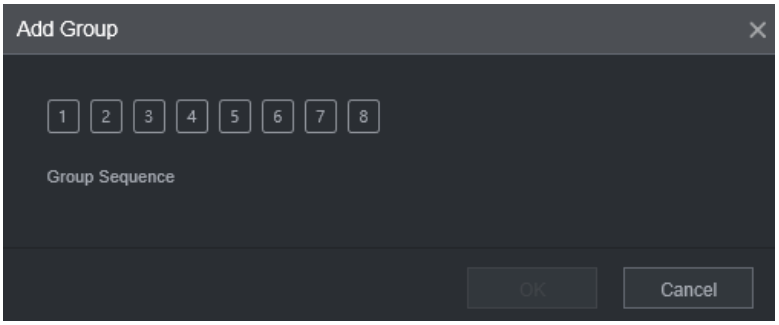
Table 5-8 Tour parameters

Parameter	Description
Interval	Set the tour interval.
Live Layout	The window split modes include single screen and 4-screen.

Step 4 Click **Add**.

The **Add Group** interface is displayed. See Figure 5-34.

Figure 5-34 Add group



Step 5 Select the channel and click **OK**.

Repeat Step 4–Step 5 to add multiple channel groups in tour.

Step 6 Click **OK**.

- Select a channel group, and click **Modify** to modify the channel group and channel sequence.
- Select a channel group, and click **Delete** to delete it.
- Select a channel group, and click **Move up** or **Move down** to modify the channel group sequence.

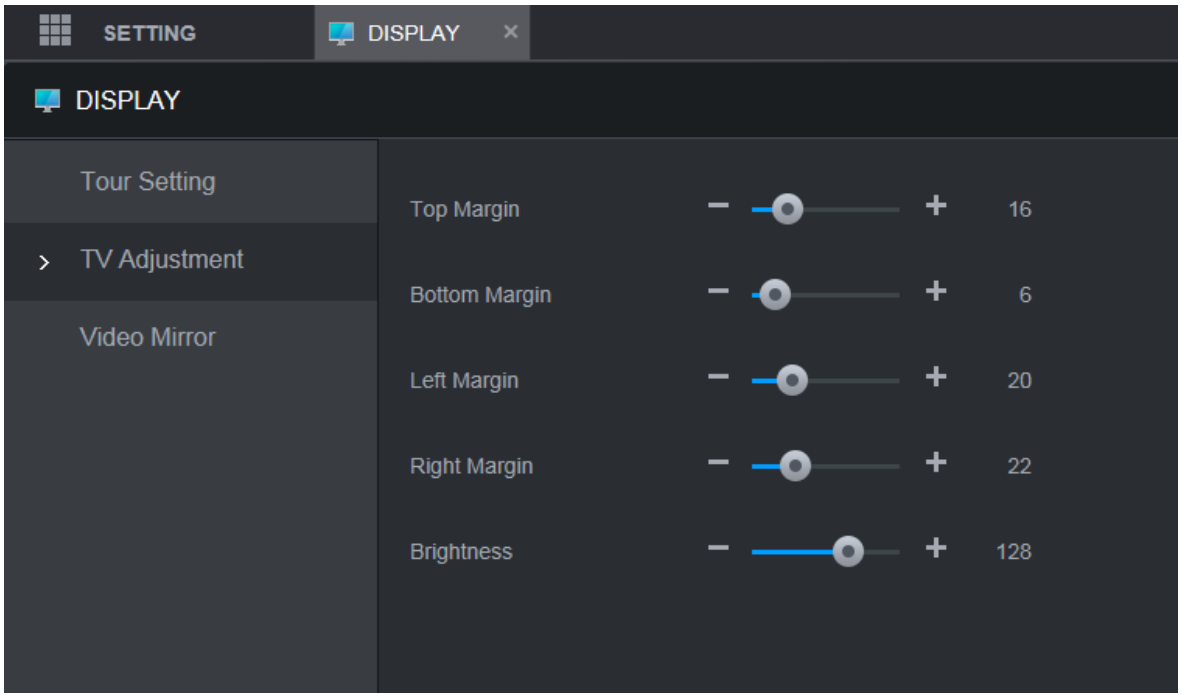
5.4.3 Configuring TV Adjustment

You can adjust the margin between video screen and play window, and brightness according to actual needs.

Steps

Step 1 Click **Display > TV Adjustment** on WEB main interface.

Figure 5-35 TV Adjustment



Step 2 Select **Enable** and configure the margin and brightness value.

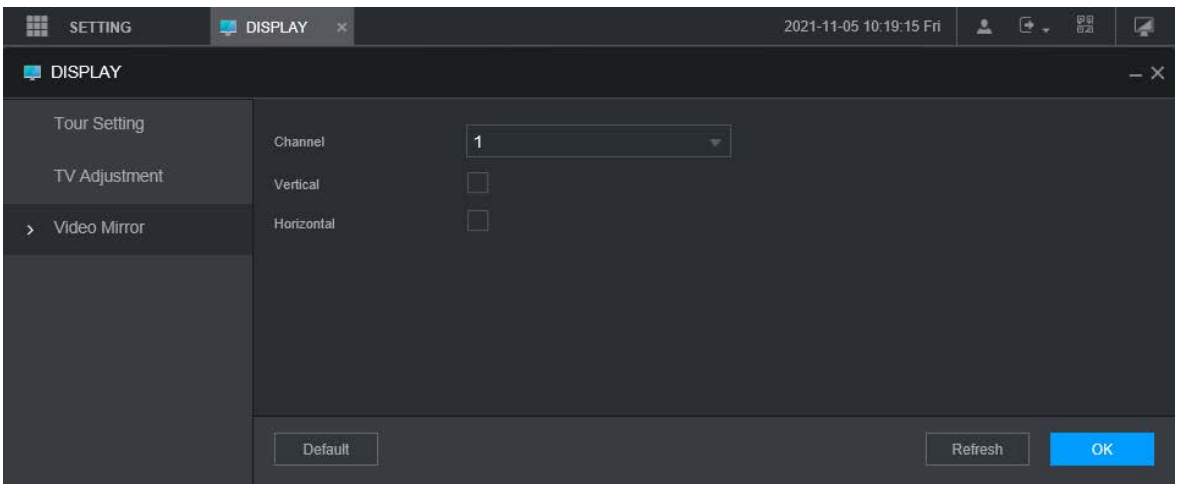
Click **OK** to finish TV adjustment configuration.

5.4.4 Configuring Video Mirror Settings

Step 1 On the main web interface, click **DISPLAY > Video Mirror**.

The **Video Mirror** interface is displayed. See Figure 5-36.

Figure 5-36 Video mirror



Step 2 Select a channel.

Step 3 Select a mirror mode. You can select **Vertical** or **Horizontal**.

Step 4 Click **OK**.

5.5 Configuring Camera Parameters

You can set camera properties, encoding parameters, PTZ properties information.

5.5.1 Configuring Camera Properties

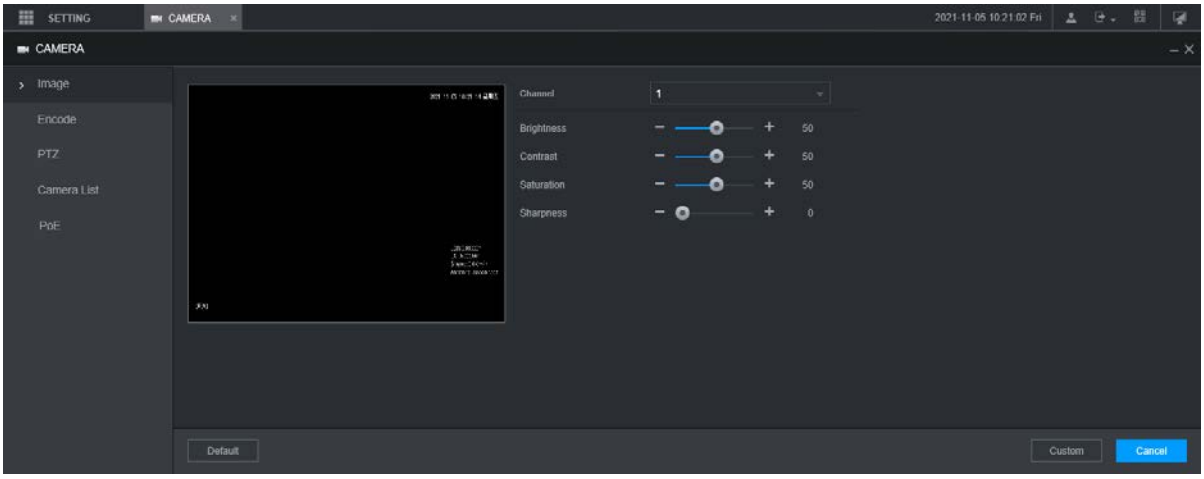
You can set up the camera property parameters of the channel.

Different cameras correspond to different property parameters. The actual parameters shall prevail.

Step 1 Select SETTING > CAMERA > IMAGE.

The **IMAGE** interface is displayed.

Figure 5-37 Image



Step 2 Select a channel.

Step 3 Configure parameters.

Table 5-9 Image property parameters

Parameter	Description
Saturation	Adjust the color purity. Adjust the saturation according to the actual situation. The bigger the value, the more colorful the image will become.
Brightness	Adjust the image brightness in a linear manner. The bigger the value, the brighter the image will become.
Contrast	Adjust the contrast of the images. The bigger the value is, the more obvious the contrast between the light area and dark area will become.
Sharpness	Adjust the sharpness of the edges of the images. The bigger the value, the more obvious the image edge will become.

Step 4 Click **OK**.

5.5.2 Configuring Encode Parameters

You can set **Encode**, **Snapshot**, **Overlay**, and **Path** settings.

5.5.2.1 Configuring Encode Settings

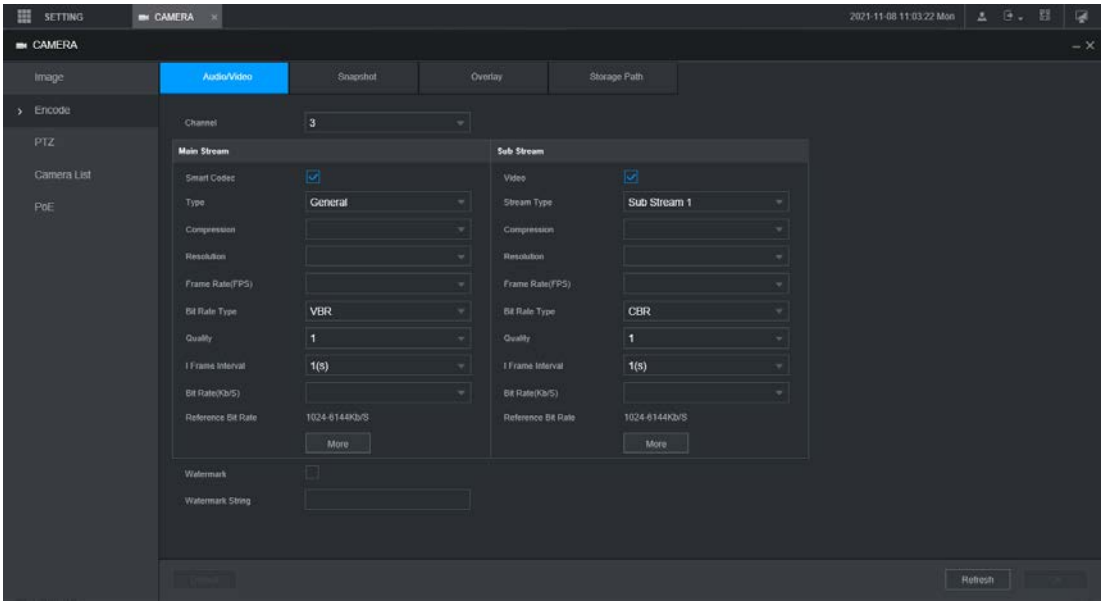
You can configure the encode settings for main stream and sub stream.

Step 1 Select SETTING > CAMERA > Encode > Audio/Video.

The **Audio/Video** interface is displayed.

Encode parameters might be different depending on devices, and the actual product shall prevail.

Figure 5-38 Audio/Video encode



Step 2 Select a channel.

Step 3 Configure parameters.

Table 5-10 Encode parameters

Parameter	Description
Smart Codec	Enabling **Smart Codec** helps compress the images more and reduce the storage space.
Video enable	Enable the sub stream.
Record type	The record type of main stream is permanently fixed as **General** and cannot be changed. General, motion detect and alarm use the general stream configurations for recording.
Code-stream type	Sub stream types.
Compression	Compression mode.
Resolution	The higher the video resolution, the better the image quality.
Frame rate (FPS)	Configure the frames per seconds for videos. The higher the value, the smoother and more vivid the image.

Bit rate type	You can select the bit rate type. ● CBR: Constant Bit Rate, which changes around the configured value. ● VBR: Variable Bit Rate, which changes along with environment. ● It is recommended to select CBR when there might be only small changes in the monitoring environment, and select VBR when there might be big changes in the monitoring environment. ● The main stream is fixed to VBR.
Quality	This parameter can be set only when **Bit Rate Type** is set to **VBR**. The image quality level. There are six levels in total. The higher the value, the better the image will become.
Bit rate (kb/s)	Configure the bit rate for main stream and sub stream. ● When CBR is selected, select the bit rate according to the reference bit rate, and the bit rate changes around the configured value. ● When VBR is selected, select the upper limit value of bit rate according to the reference bit rate, and the bit rate changes along with the monitoring environment. But the maximum bit rate value changes around the configured value. ● Select **Custom** to configure bit rate value manually.
Reference bit rate	The system recommends the optimal bit rate range according to the resolution and frame rate settings.
Audio enable	Click **More** to enable the audio. If the corresponding check box is selected, the video recordings are audio and video combined streams.
Audio encoding	Select an audio encode format. The parameters might be different depending on the model you purchased, and the actual product shall prevail.
Audio source	Source of audio.
Watermark enable	Select the **Watermark** check box to verify whether the video recording is falsified.
Watermark string	Enter the strings for verifying watermark. The default string is DigitalCCTV. The watermark string can only consist of number, letter, underline (_), and hyphen (-), and the maximum length is 127 characters.

Step 4 Click **OK**.

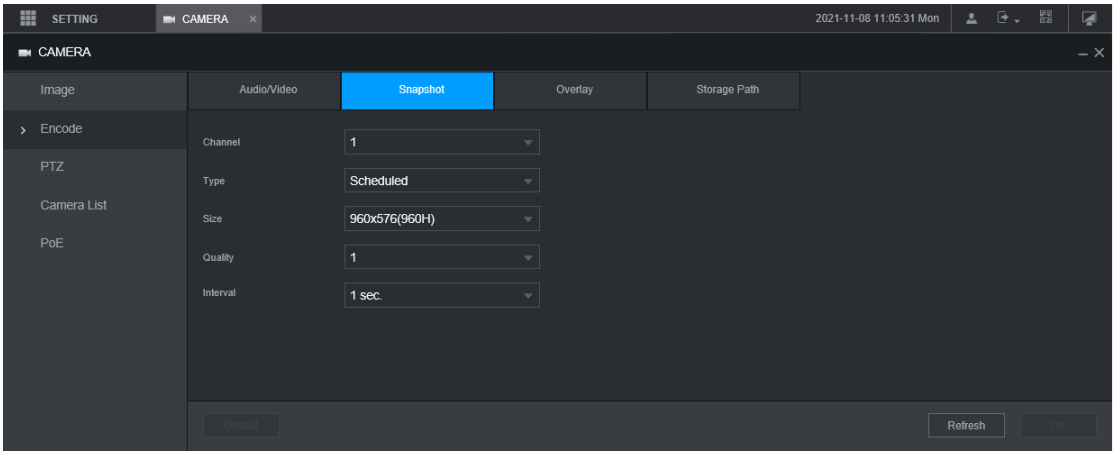
5.5.2.2 Configuring Snapshot Settings

You can configure the snapshot settings such as mode, size, quality, and interval.

Step 1 Select SETTING > CAMERA > ENCODE > Snapshot.

The **Snapshot** interface is displayed.

Figure 5-39 Snapshot



Step 2 Select a channel.

Step 3 Configure more parameters. See Table 5-11.

Table 5-11 Snapshot parameters

Parameter	Description
Type	Includes scheduled and event. ● Scheduled: Take snapshots within the configured period. ● Event: Take snapshots when alarms such as local alarm, video detection and abnormality are triggered.
Size	Select a resolution for the captured images.
Quality	The image quality and there are six levels in total.
Interval	Interval of taking snapshots. The maximum value you can set is 3600 seconds as an interval between two snapshots.

Step 4 Click **OK**.

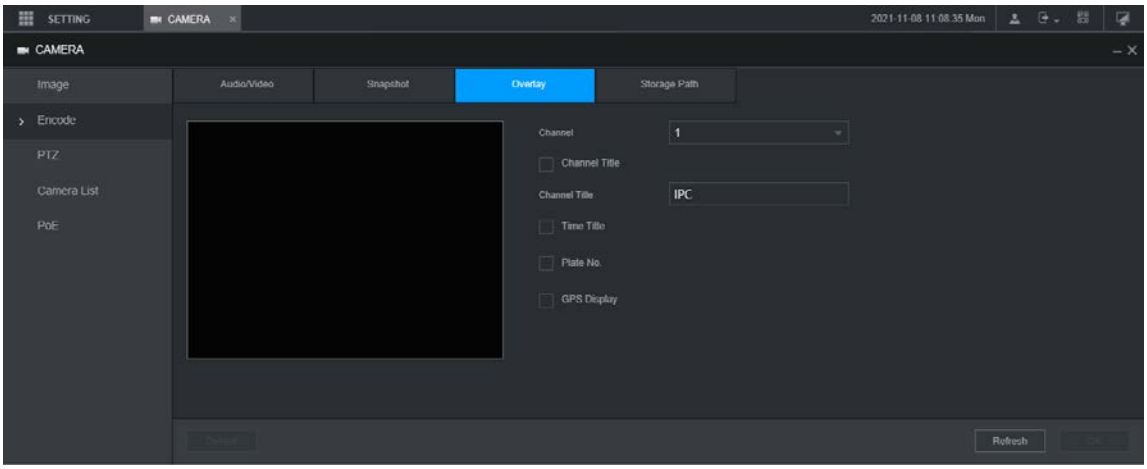
5.5.2.3 Configuring Overlay Settings

You can configure the title of video image overlay.

Step 1 Select SETTING > CAMERA > ENCODE > Overly.

The **Overlay** interface is displayed.

Figure 5-40 Overlay



Step 2 Select a channel.

Step 3 See Table 5-12.

Table 5-12 Overlay parameters

Parameter	Description
Channel title	Select **Channel Title**, and the **Setting** button is displayed. Then click **Setting** on the right of the **Channel Title**, enter the channel title, and drag it to a proper location.
Time title	Select the **Time Title** check box, the **Setting** button is displayed. Then click **Setting** on the right of the **Time Title**, and then drag it to a proper location.
Plate No.	Tick **Plate No.**, **Setting** button shows up at the right side of **Plate No.**, click that and drag plate title to proper position.
GPS display	Select the **GPS Display** check box, the **Setting** button is displayed. Then click **Setting** on the right of the **GPS Display**, and then drag it to a proper location.

Step 4 Click **OK**.

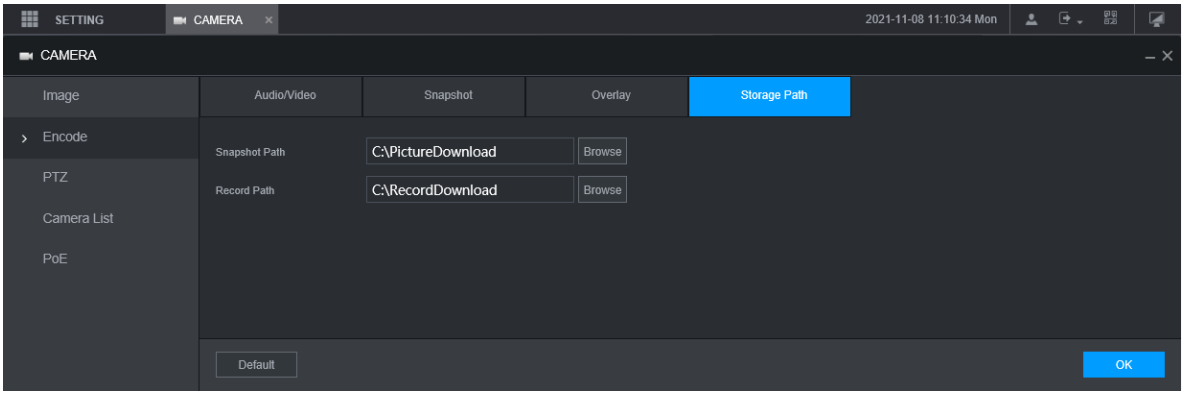
5.5.2.4 Storage Path

You can configure the storage path of captured snapshots and video recordings.

Step 1 Select SETTING > CAMERA > ENCODE > Storage Path.

The **Storage Path** interface is displayed.

Figure 5-41 Storage Path



Step 2 Click **Browse** to select the save path for snapshots and recordings.

Images and recordings by using functions of snapshots and recordings on the **Live** interface are saved in these two paths by default: C:\PictureDownload and C:\RecordDownload.

Step 3 Click **OK**.

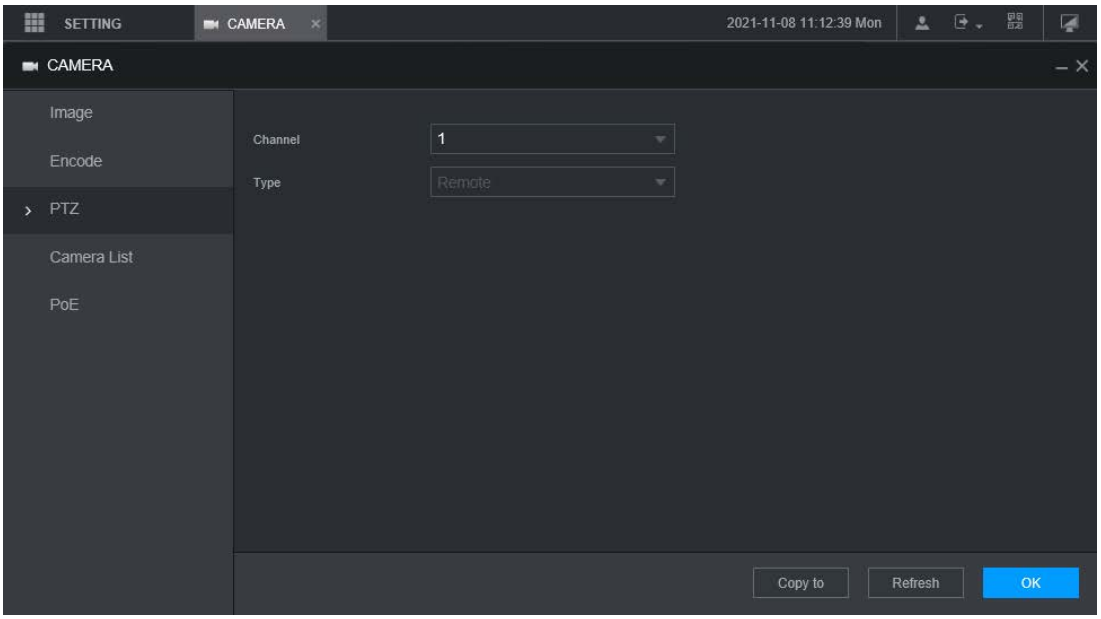
5.5.3 Configuring PTZ Settings

You can configure the corresponding PTZ of the device channel.

Step 1 Select SETTING > CAMERA > PTZ.

The **PTZ** interface is displayed. See Figure 5-42.

Figure 5-42 PTZ



Step 2 Select a channel.

Step 3 Configure more parameters. See Table 5-13.

Table 5-13 PTZ parameters

Parameter	Description
PTZ type	Set the PTZ type, including local and remote.

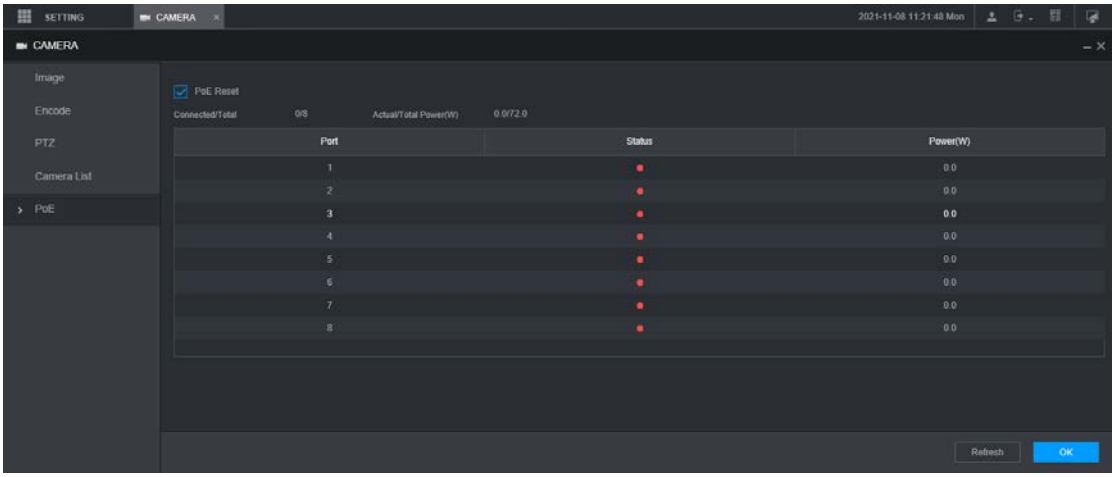
Step 4 Click **OK**.

5.5.4 Viewing PoE

View the connection status of the PoE port and reset the camera.

Step 1 Select **Setting> CAMERA > PoE** in the main menu. The **PoE** interface is displayed.

Figure 5-43 PoE



Step 2 Select **PoE Reset**, and click **OK** to reset the camera with power but offline so that the camera can be online. If the camera is still offline after reset for 3 times, the system will not reset again.

When the total power of the cameras accessed through PoE exceeds the maximum power of the device, the device will force the camera connected to the maximum port number to go

offline until the total power of the camera accessed through PoE does not exceed the maximum power of the device.

5.6 Configuring Network Parameters

You can set the network parameters of the device as needed, including connections, Wi-Fi parameters, Cellular parameters, email, auto register, and P2P.

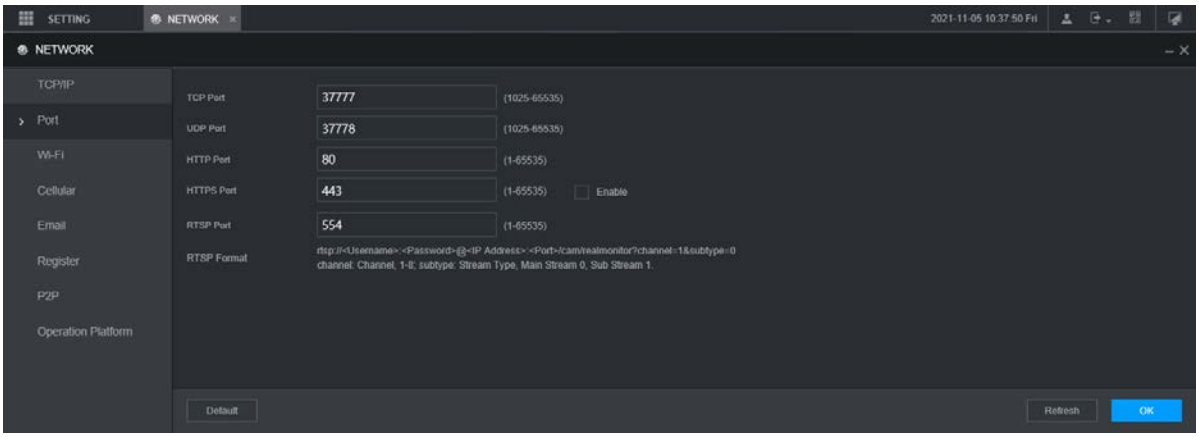
5.6.1 Configuring Connection Settings

You can configure the maximum number of ports and their respective values.

Step 1 Select SETTING > NETWORK > Port.

The **Port** interface is displayed.

Figure 5-44 Port



Step 2 Configure the ports of the device.

The revised settings take effect after device restart. Proceed with caution.

Table 5-14 Connection parameters

Parameter	Description
TCP port	Transmission Control Protocol port. The value is 37777 by default.
UDP port	User Datagram Protocol port. The value is 37778 by default. You can enter the value as needed.
HTTP port	Hyper Text Transfer Protocol port. The value is 80 by default. You can enter other values as needed, in which case, add the new value after the address when logging in to the device in the browser.
HTTPS port	Hyper Text Transfer Protocol over Secure Socket Layer port. Select **Enable**, and then enter the value as needed. The value is 443 by default.

RTSP port	• Real Time Streaming Protocol port. Keep the default value 554 if it is displayed. If you use Apple browser, QuickTime or VLC to play the real-time monitoring screen, the following formats can be used: This function is also available for Blackberry phones. • When the URL format requiring RTSP, you need to specify channel number and code-stream type in the URL, and also user name and password if needed. • When playing live view with Blackberry smart phone, you need to turn off the audio, and then set the compression to H.264B and resolution to CIF. URL format: rtsp://<*User Name*>:<*Password*>@<*IP Address*>:<*Port*>/cam/realmonitor?channel=*1*&subtype=*0* • User name, such as admin. • Password, such as admin_123. • IP address, such as 192.168.1.16. • Port: The default setting is 554. If the default setting is displayed, you do not need to configure this parameter. • Channel: channel number, starting from 1. For example, if it is channel 2, enter channel=2. • Subtype: code-stream type. The main stream is 0 (subtype=0); the sub stream is 1 (subtype=1). For example, if you request the sub stream of channel 2 from a certain device, the URL should be: rtsp://admin:admin_123@192.168.1.16:554/cam/realmonitor?channel=2&subtype=1 If certification is not required, there's no need to specify the user name and password. Use the following format: rtsp:// <*IP Address*>:<*Port*>/cam/realmonitor?channel=*1*&subtype=*0*
NTP port	The port that automatically syncs time with the NTP server is 123 by default.

Step 3 Click **OK**.

5.6.2 Configuring Wireless Network Settings

You can connect the device to a network through Wi-Fi. Make sure the device can communicate with other devices in the group network. The device itself can also act as a hot spot to share flows with other terminals.

If both cellular and Wi-Fi are available, the device connects to Wi-Fi and disconnects from cellular.

5.6.2.1 Configuring Wi-Fi Network Settings

You can connect the device to a network through Wi-Fi. Then connect the PC to the same network. You can log in to the web interface by PC to operate the device.

This function is only supported by the device with a Wi-Fi module. The actual situation shall prevail.

Preparation

Make sure that the device is connected to a Wi-Fi module.

Procedure

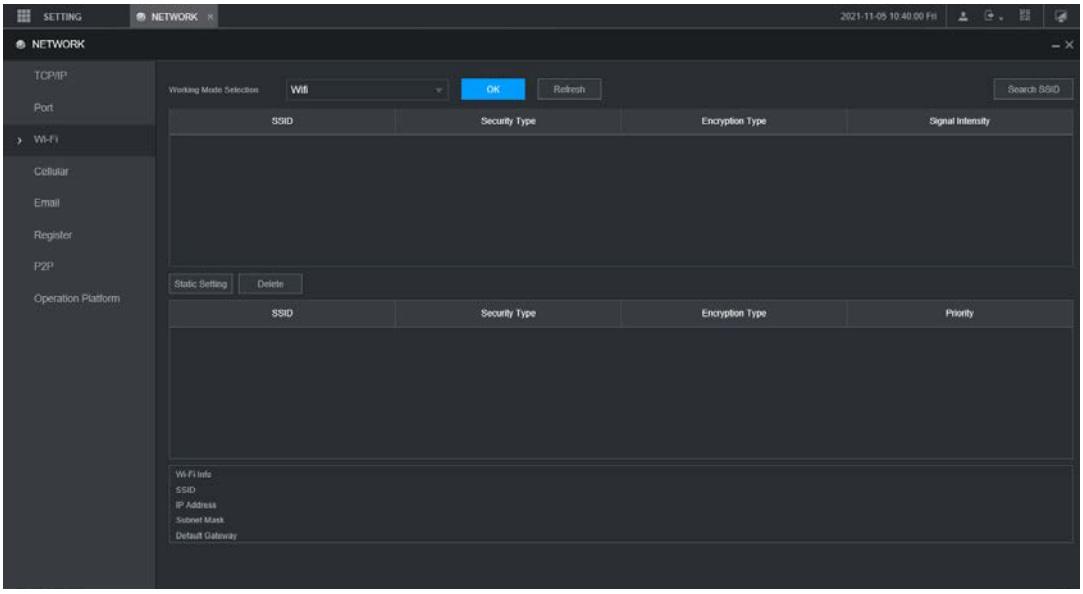
Step 1 Select SETTING > NETWORK > Wi-Fi.

The **Wi-Fi** interface is displayed.

Step 2 Select **Wifi** as the working mode.

The **Wi-Fi** interface is displayed.

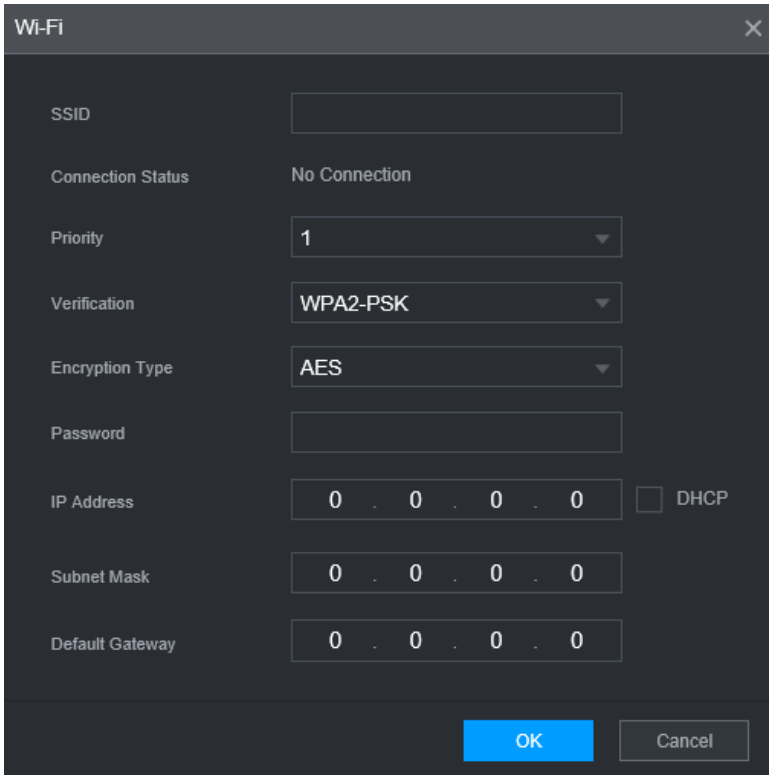
Figure 5-45 Wi-Fi



Step 3 Connect to Wi-Fi.

- Auto search
  1. Click **Search SSID**.
     In the SSID list, all available wireless networks are listed, including the information such as network name, security type, encryption type, and signal intensity.
  2. Double-click the Wi-Fi you want to connect to, enter the password, and then click **OK**.
- Add Wi-Fi manually.
  1. Click **Static Setting**.
     The **Wi-Fi** interface is displayed.

Figure 5-46 Wi-Fi settings



2. Enter SSID and password, select priority and verification type, set IP address, subnet mask, and gateway.
   If you select **DHCP** check box, after successful connection, the system automatically obtains the IP address, subnet mask, and gateway.
3. Click **OK**.

Step 4 Click **OK**.

Click **Refresh** to refresh the connection status.

After successful connection, you can view the current hot spot, IP address, subnet mask, and gateway in **Wi-Fi Working Info**.

5.6.2.2 Configuring Wi-Fi Hot Spot

The device can work as a hot spot to share the network connection to other terminals. The terminals connected to the hot spot can log in to the device through host IP address (192.168.0.108). After login, you can view videos on the device.

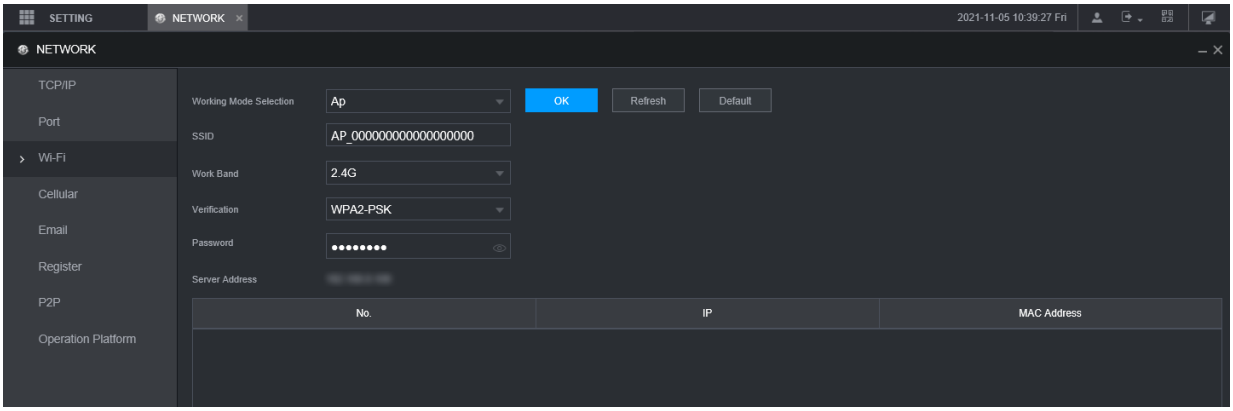
Step 1 Select SETTING > NETWORK > Wi-Fi.

The **Wi-Fi** interface is displayed.

Step 2 Select **Ap** as the working mode.

The **Ap** interface is displayed.

Figure 5-47 Ap settings



Step 3 Enter SSID, select work band and verification type, and then enter the password.

- The work band can only be 2.4G.
- Select the check box behind **Password**, and the password will be visible. The default password is 12345678.

Step 4 Click **OK**.

5.6.3 Configuring Cellular Settings

Preparation

- Make sure that the device is equipped with cellular module and inserted with SIM card from corresponding communication operators.
- The dial number, user name, and password have been obtained from corresponding communication operators.

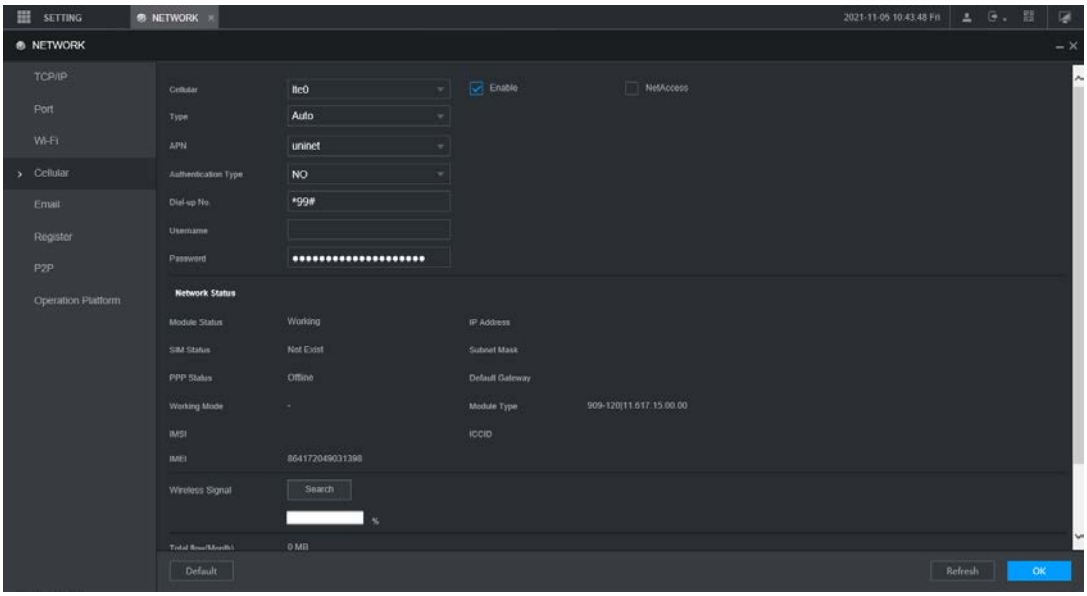
Procedure

Step 1 Select SETTING > NETWORK > Cellular.

The **Cellular** interface is displayed.

After cellular module is connected, the module information and wireless signal are displayed; if not, click **Search** to search for wireless signal.

Figure 5-48 Cellular settings



Step 2 Select **lte0** and **Enable** to enable the network. This function is enabled by default.

Step 3 Configure parameters.

Table 5-15 Cellular parameters

Parameter	Description
NetAccess	When the device is connected to a private network, select the **NetAccess** check box, enter APN name and select authentication mode. If **PAP** or **CHAP** is selected for authentication mode, enter user name and password, and then the device is automatically connected to the private network.
WLAN type	When enabled, the network type is displayed, which is used to distinguish between the cellular modules of different communication operators, such as TD-LTE.
APN	When enabled, the access point of the communication operator is displayed. To manually set up APN, select **Customized**.
AUTH	Includes PAP, CHAP, and NO_AUTH protocols. The system automatically recognizes and displays the enabled protocol.
Dial No.	Enter the dial number provided from the communication operator.
User name	This parameter needs to be set up when AUTH is set to PAP or CHAP. The system automatically recognizes the user name and password.
Password	
WLAN status	After successful dial-up, all relevant information is displayed without any setup needed. Such information includes module state, SIM state, PPP state, working mode, IMSI, IMEI, IP address, subnet mask, gateway, and module type.
Wireless Signal	Click **Search** to search for wireless signals.

Step 4 Click **OK**.

After successful connection, the obtained IP address is displayed.

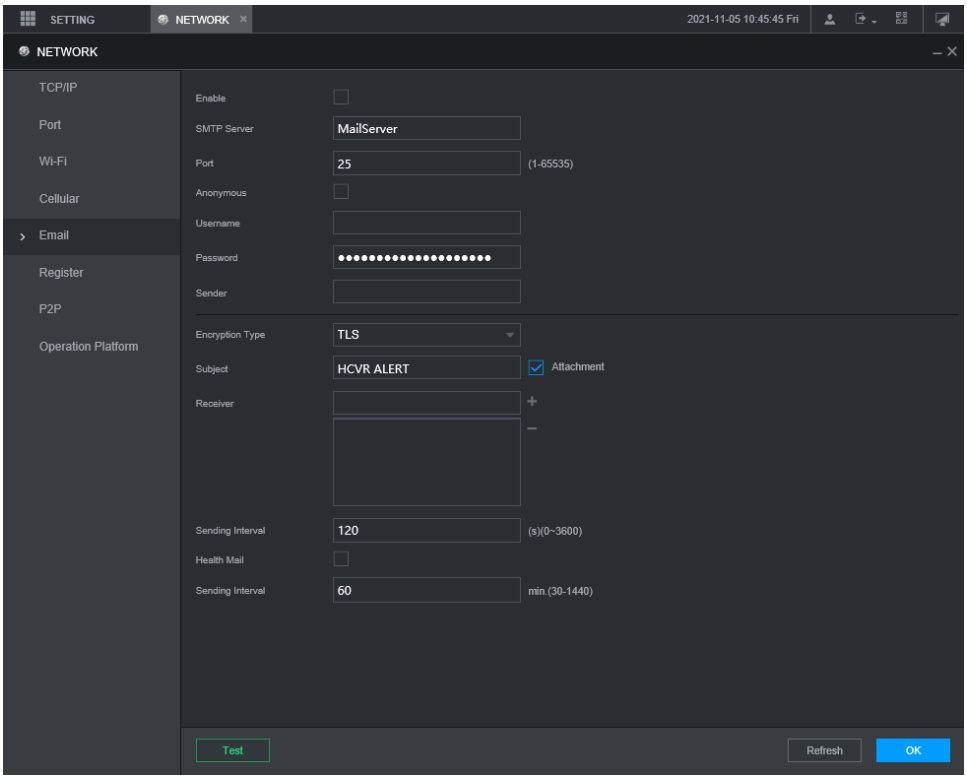
5.6.4 Configuring Email Settings

You can configure the email settings to enable the system to send an email as a notification when there is an alarm event occurs, such as video detection or abnormality.

Step 1 Select SETTING > NETWORK > Email.

The **Email** interface is displayed.

Figure 5-49 Email settings



Step 2 Select **Enable** to enable email function.

Step 3 Configure parameters.

Table 5-16 Email setting parameters

Parameter	Description
SMTP server	Configure the address of SMTP (Simple Mail Transfer Protocol) server.
Port	Enter the port value of SMTP server.
Anonymous	If **Anonymous** is selected, the sender information is not displayed when sending an email.
User name	Enter the user name and password of SMTP server.
Password	
Sender	Sender's email address.
Encryption Type	For authentication, select NONE, SSL, or TLS.
Title	You can enter no more than 63 characters in Chinese, English, and Arabic numerals.
Attachment	If **Attachment** is enabled, when an alarm takes place, the system can send alarm linked snapshots.
Mail receiver	Email address of the receiver. You can enter up to three email addresses separated by colons.

Interval	This is the interval that the system sends another email for the same type of alarm event, which means, the system does not send an email upon any same alarm event within the set interval. The interval ranges from 0 through 3600 seconds. 0 means that there is no interval. This setting helps avoid large amount of emails caused by frequent alarm events.
Health Mail	Confirm whether the email link is valid through the test information sent automatically from the system. Select the **Health Mail** check box, and then enter the interval. The system can send a test email to check the connection after the specified interval. The value ranges from 30 minutes through 1440 minutes.
Email test	Click **Test** to test if emails can be sent out and received as intended. If the configuration is correct, you would receive a test mail. Before testing, click **OK**.

Step 4 Click **OK**.

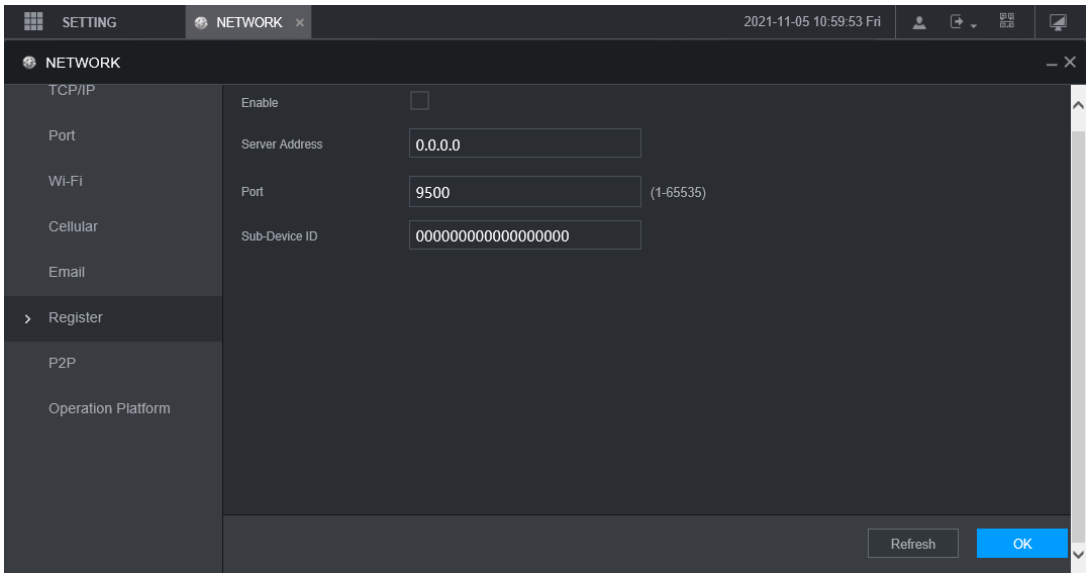
5.6.5 Configuring Auto Register Settings

After successfully auto registered, when the device is connected into the Internet, it will report the current location to the specified server to make it easier for the client software to access to the device, and to view and monitor it.

Step 1 Select SETTING > NETWORK > REGISTER.

The **Register** interface is displayed.

Figure 5-50 Register



Step 2 Select the **Enable** check box to enable the function. (Selected by default).

Step 3 Configure parameters.

Table 5-17 Register parameters

Parameter	Description
Server Address	Enter the IP address or domain name of the server to register.

Port	Enter the port of the server to register.
Sub device ID	Unique ID for identifying the device. When different devices register to the same server, the sub device IDs should be different.

Step 4 Click **OK**.

5.6.6 Configuring P2P Settings

P2P is a private network penetration technology. With this technology, you do not need to apply for dynamic domain name, set port mapping, or deploy transit server. You can add devices for management by either of the following two ways.

- Scan the QR code on the interface to download the app, and register an account. See "App Operation Examples" for details.
- Log in to www.gotop2p.com and register an account, and then add devices by device serial numbers. See *P2P Operation Manual* for details.

Before using P2P, make sure that the device is connected to the Internet.

Preparation

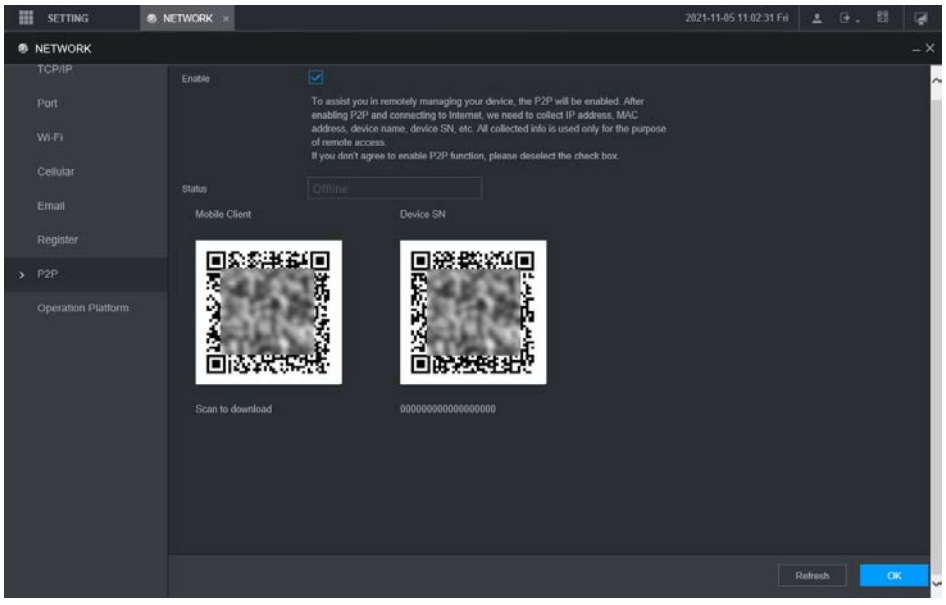
- The device is connected to the Internet.
- DMSS app is downloaded and installed on your mobile phone.

Procedure

Step 1 Select SETTING > NETWORK > P2P.

The **P2P** interface is displayed.

Figure 5-51 P2P



Step 2 Select **Enable** to enable P2P.

Step 3 Use the app to scan the QR code of the device SN to add the device in the app.

Scan the QR code on the actual interface of the device. The QR code in this document is for reference only.

Step 4 Click **OK**.

After configuration is complete, the **Status** shows **Online**, meaning the P2P registration is successful.

App Operation Examples

Here are the steps for operations in the app.

Step 1 On your mobile phone, download the app.

Step 2 After installation, run the app, select **Remote Monitoring**, and go to the main menu.

Step 3 Add the device in the app.

1) Click  and select **Device Manager**.
   The **Device Manager** interface is displayed.
2) Click  , initialize the device as needed and follow the instructions to connect the device. To do so, you can scan the device label or the serial number QR code of the device on the device page.
   After scanning, the device is added. The serial number of the device is displayed in **Serial Number** section.

Step 4 To review the monitoring screen of the device, click **Live**.

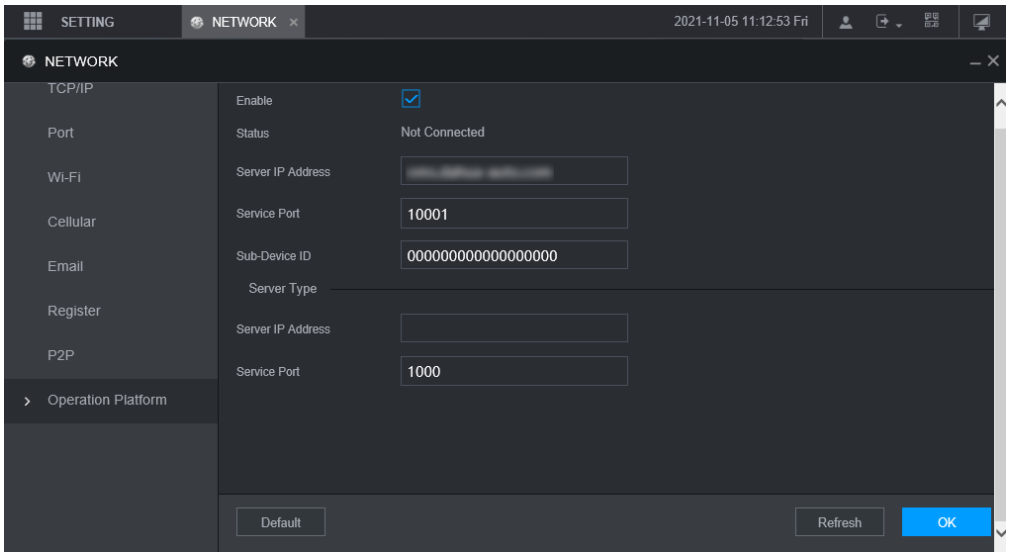
5.6.7 Configuring Operation Platform

By connecting to the operation platform, you can modify the configuration information of the recorder, collect the print information and GPS raw data, and upgrade remotely.

Step 1 Click SETTING > NETWOTRK > Operation Platform.

The **Operation Platform** interface is displayed. See Figure 5-52.

Figure 5-52 Operation Platform



Step 2 Select **Enable**.

Step 3 Configure parameters. For details, see Table 5-18.

Table 5-18 Operation platform parameters

Parameter	Description
Address	Enter the IP address or domain name of the server to register.
Port	Enter the port of the server to register.

Step 4 Click **OK**.

5.7 Managing Storage Device

You can configure Disk storage, package basic information, manage Disk, and review Disk information.

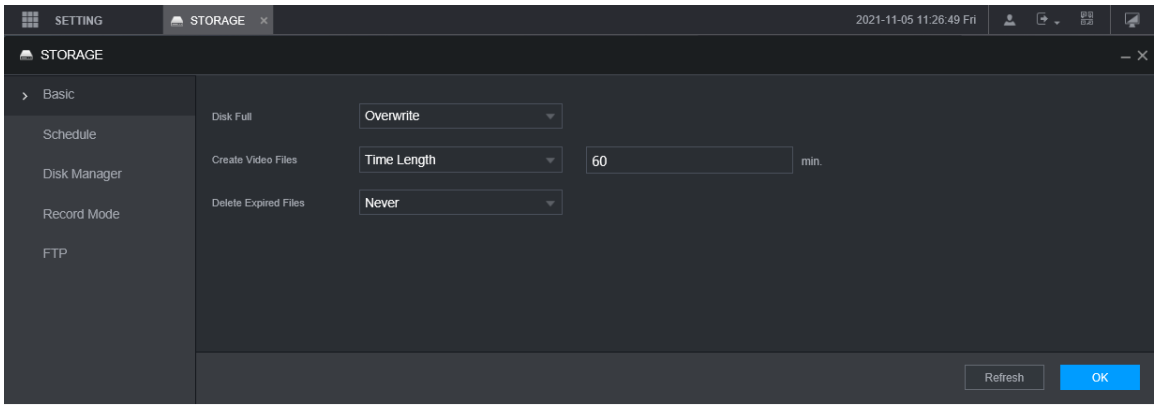
5.7.1 Configuring Basic Information

On the Local interface, you can set up the strategy when the Disk is full and how to package recordings.

Step 1 In the main menu, select **SETTING > STORAGE > BASIC**.

The **BASIC** interface is displayed.

Figure 5-53 Basic configuration



Step 2 Configure basic information.

- Select the processing strategy of stopping recording and overwriting earlier recordings when Disk is full.
  - ◇ Stop: When all readable and writable Disk s are full and there is no extra free disk, the recording stops.
  - ◇ Overwrite: When all readable and writable Disk s are full and there is no extra free disk, the new video recordings overwrites the old ones.
- Set up the time length or file size for packaging recordings.

  Select the required packaging manner from the **Create Video Files** drop-down list, which includes **File Size** and **Time Length**.
  - ◇ Set the length of time for each video file. The default value is 60 minutes, and the range is 1 minute–120 minutes.
  - ◇ Set the size of file for each video file. The default value is 1024M, and the range is 128M–2048M.
- Set the strategy of deleting old files automatically.

After setting file auto deletion, deleted files cannot be recovered.

Step 3 Click **OK**.

5.7.2 Managing Disk

Set the read and write properties of the SD card and view the capacity information of the Disk.

Step 1 Select SETTING > STORAGE > Disk Manager.

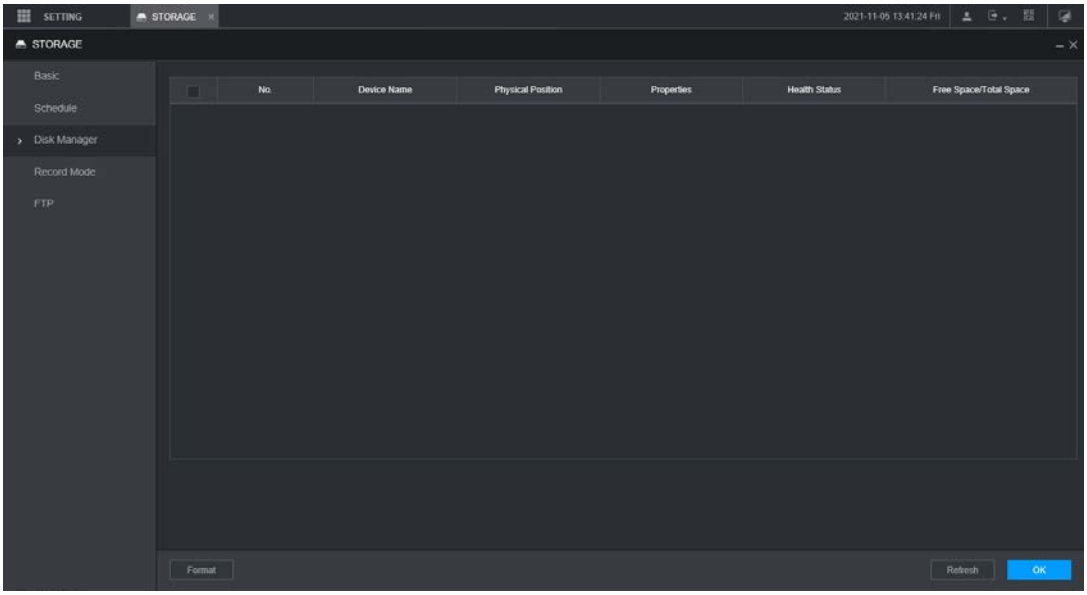
The **Disk Manager** interface is displayed.

You can set the SD card as the Read/Write disk, Read-Only disk or Redundancy disk under the **Disk Operation** column.

- Read/Write: You can read data from SD card and save data in SD card.
- Read-Only: You can only read data from SD card if set to read-only disk.
- Redundancy: If the device is connected to two or more SD cards, one of the SD cards can be set as the redundancy one for recording backup.

Select SD card and click **Format** to clear all data in the SD card. Proceed with caution.

Figure 5-54 Storage device



Step 2 Click **OK**.

5.7.3 Configuring FTP Settings

Back up video recordings and images to the preset FTP (File Transfer Protocol) server for storage.

Preparation

Make sure that you have purchased or download a FTP server and installed it on your PC.

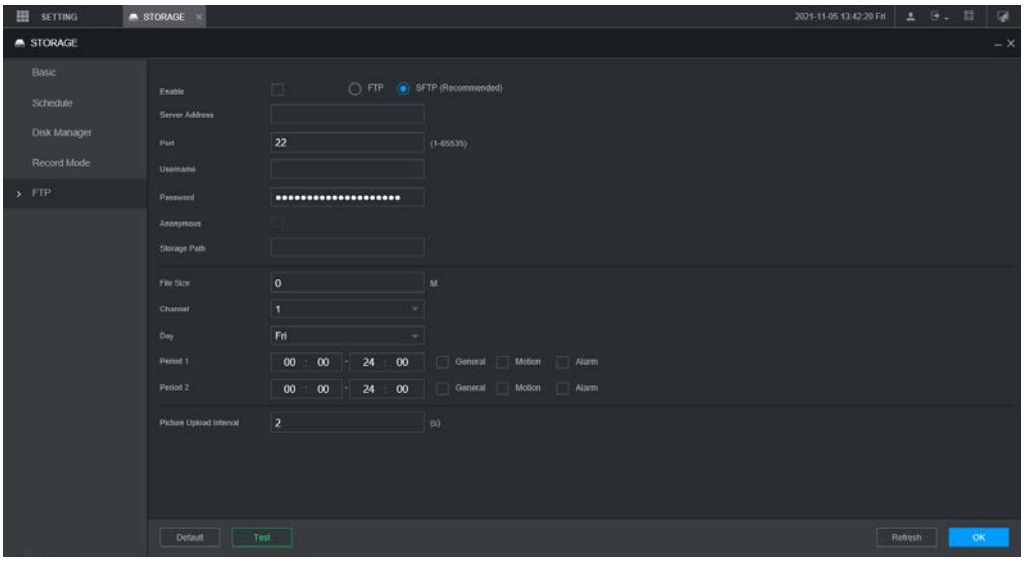
For the created FTP user, you need to set the write permission; otherwise the upload of video recordings and snapshots will fail.

Procedure

Step 1 Select SETTING > STORAGE > FTP.

The **FTP** interface is displayed.

Figure 5-55 FTP settings



Step 2 Select **Enable** to enable FTP upload and select FTP type.

- FTP is for plain text transmission and SFTP is for cipher text transmission. It is recommended to select SFTP.
- When **FTP** is selected, the system gives a risk prompt. Select **OK** or **Cancel** as needed.

Step 3 Configure parameters.

Table 5-19 FTP parameters

Parameter	Description
Server Address	The IP address of the host PC that is installed with the FTP/SFTP server.
Port	By default, SFTP port is 22 and FTP port is 21.
User name	The user name and password used to access the server.
Password	
Anonymous	Select **Anonymous** if you want to log in to the server anonymously.
Remote directory	Create a folder on FTP server. ● If you leave it empty, the system automatically creates folders based on IP, time, and channel. ● If you enter a name for the remote directory, the system creates a folder with the entered name under the FTP/SFTP root directory first, and then automatically creates folders based on IP, time, and channel.
File size	Enter the size of the uploaded video recordings. ● If the entered length is less than the length of the video recording, only a section of the video recording can be uploaded. ● If the entered length is more than the length of the video recording, the whole video recording can be uploaded. ● If the entered length is 0, the whole video recording will be uploaded.

Picture upload interval	● When the **Mode** is **Timing**, the upload method should be determined based on the image upload interval and snapshot interval. ◇ If this interval is longer than snapshot interval, the system uploads the most recent snapshot. For example, if the interval is 5 seconds and snapshot interval is 2 seconds, the system sends an upload command to upload the next snapshot every 5 seconds. ◇ If this interval is shorter than snapshot interval, the system uploads the snapshot as per the snapshot interval. For example, if the interval is 5 seconds and snapshot interval is 10 seconds, the system uploads the snapshot every 10 seconds. ● When the **Mode** is **Event**, the system uploads the snapshot as per the snapshot interval.  You can change the **Interval** and **Mode**.
Channel	Select the channel that you want to apply the FTP settings.
Day	Select the week day and set the time period that you want to upload the recording files. You can set two periods for each week.
Period	Select the record type (Alarm, MD, and General) that you want to upload. After selecting the corresponding recording type next to the corresponding period, the selected recording type will be uploaded during the configured period.

Step 4 Click **Test** to test if the FTP/SFTP server is successfully configured.

- The system pops up a message to indicate success or failure.
- In case of failure, check the network connection or configuration.

Step 5 Click **OK**.

5.8 Configuring System

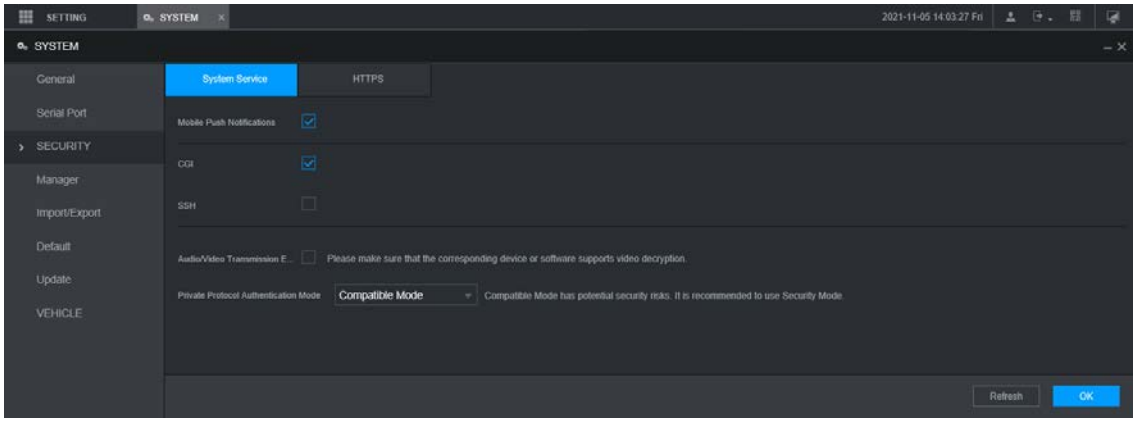
You can configure system information, security management, and vehicle information.

5.8.1 Security

5.8.1.1 Configuring System Service

Step 1 Select SETTING > SYSTEM > SECURITY > System Service.

Figure 5-56 System service



Step 2 Select whether to enable Mobile Phone Push, CGI, SSH, Audio/Video Transmission Encryption, or Private Protocol Authentication Mode as needed.

- Mobile Phone Push: The P2P client can receive alarm push only when **Mobile Push Notifications** is enabled and the P2P client subscribes to alarms.
- **CGI**: After enabling **CGI**, a third-party platform can connect to this device via the CGI protocol.
- **SSH**: Secure Shell (SSH) is a cryptographic network protocol for operating network services securely over an unsecured network. You can enable it for enhancing data safety.
- **Audio/Video Transmission Encryption**: When enabled, audio/video transmission will be encrypted. Related devices or software shall support video decryption.
- **Private Protocol Authentication Mode**: You are recommended to select the **Security Mode**.

Step 3 Click **OK**.

5.8.1.2 Configuring HTTPS Settings

Through creating server certificate or downloading root certificate, and setting port number, the PC can log in to the device via HTTPS to ensure the security of communication data and guard the user information and device security with stable technology measures.

Preparation

You have to enable the HTTPS port before you can start creating server certificate or downloading root certificate.

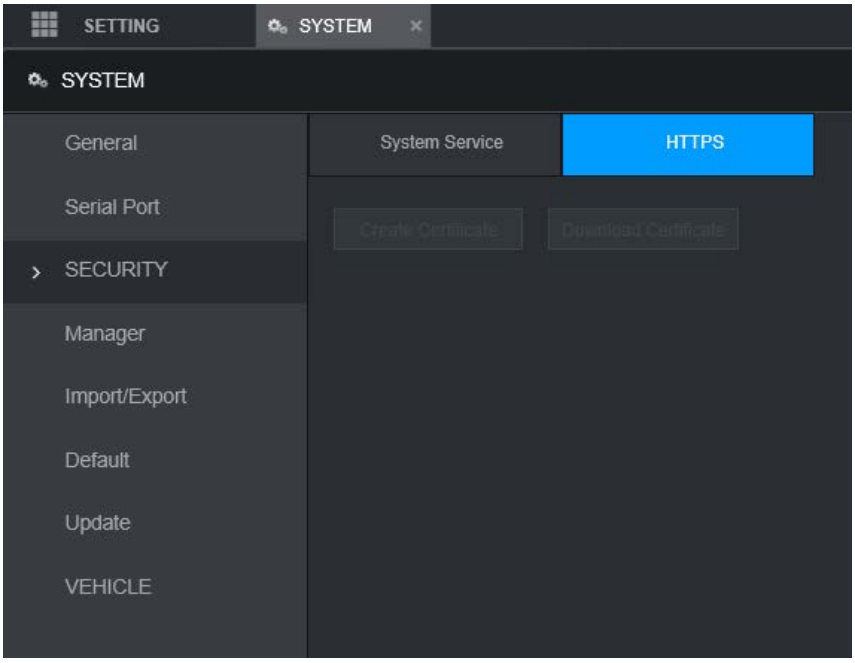
5.8.1.2.1 Creating Server Certificate

For the first time to use this function or after changing the device IP address, you need to create server certificate.

Step 1 Select SETTING > SYSTEM > SECURITY > HTTPS.

The **HTTPS** interface is displayed.

Figure 5-57 HTTPS



Step 2 Click Create Certificate.

The **Create Certificate** interface is displayed.

Step 3 Enter the information for the parameters such as Country, State, and Location.

In **IP or Domain Name** box, enter the same IP or domain name of the device.

Step 4 Click **Create**.

The system pops up a message after the creating is succeeded.

5.8.1.2.2 Downloading Root Certificate

For the first time to use HTTPS after changing the PC, you need to download root certificate.

Step 1 Click SETTING > SYSTEM > SECURITY > HTTPS.

The **HTTPS** interface is displayed.

Step 2 Click Download Certificate.

The Download Certificate interface is displayed.

Step 3 Click **Open**.

The **Certificate** interface is displayed.

Step 4 Click Install Certificate.

The **Certificate Import Wizard** interface is displayed.

Step 5 Click **Next**.

The **Certificate Store** interface is displayed.

Step 6 Click **Next**.

The **Completing Certificate Import Wizard** interface is displayed.

Step 7 Click **Finish**.

The **Security Warning** interface is displayed.

Step 8 Click **Yes**.

The **Import Completed** interface is displayed. The certificate is now downloaded.

5.8.1.2.3 Configuring HTTPS Port

After creating server certificate or downloading root certificate, you need to configure the HTTPS port.

Step 1 Click SETTING > NETWORK > Port.
The **Port** interface is displayed.

Step 2 Enter the HTTPS port. The default setting is 443 and you can modify it as needed.
Add the port number if it was modified to log in to the device via HTTPS.

Step 3 Click **OK**.

5.8.1.2.4 Logging in by HTTPS

You can use HTTPS to log in to the web interface of the device.

Open the browser, enter https://*xx.xx.xx.xx*:*port*, and the login interface is displayed.

- *xx.xx.xx.xx* corresponds to your device IP address or domain name.
- Port corresponds to your HTTPS port. If the default value is 443, do not enter ":*port*". Just enter "https://*xx.xx.xx.xx*" to visit.

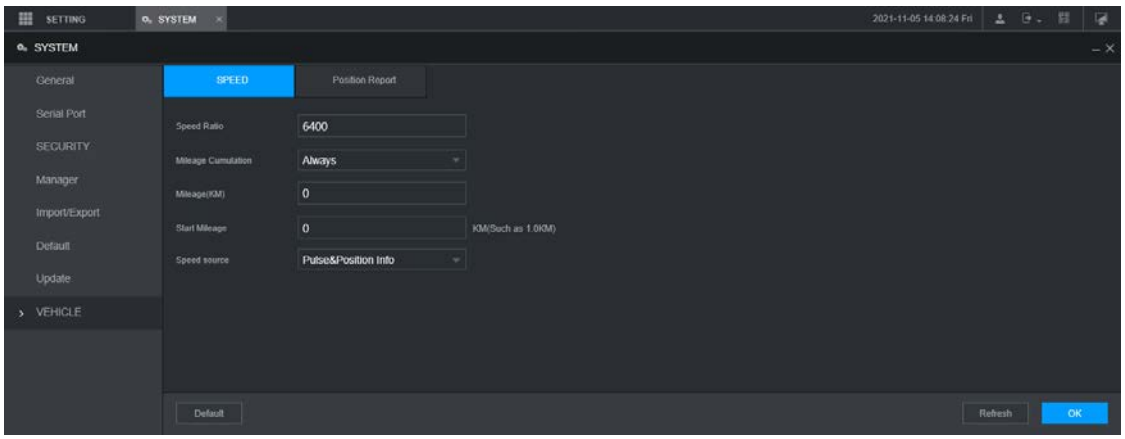
5.8.2 Configuring Vehicle Settings

You can set the vehicle speed and position report.

5.8.2.1 Configuring Speed Settings

Step 1 Click SETTING > SYSTEM > VEHICLE > SPEED.
The **SPEED** interface is displayed.

Figure 5-58 Speed



Step 2 Configure more settings. See Table 5-20.

Table 5-20 Speed parameters

Parameter	Description
Speed ratio	The parameter for converting speed.
Mileage cumulation	Select the vehicle mileage cumulation mode.
Mileage	Displays the total mileage.
Start mileage	Enter the initial mileage of the vehicle.

Speed source	Select where the speed is obtained, including **Pulse**, **Position Info**, and **Pulse&Position Info**. ● Pulse: Gets the speed information from vehicle pulse system. ● Position Info: Gets the speed information from positioning system. ● Pulse&Position Info: Gets the speed information from both the pulse system and positioning system. Information from the pulse system is used first.

Step 3 Click **OK**.

5.8.2.2 Configuring Position Report

You can configure the position report strategy to **Device Auto** or **Platform Schedule**.

Step 1 Click SETTING > SYSTEM > VEHICLE > Position Report.

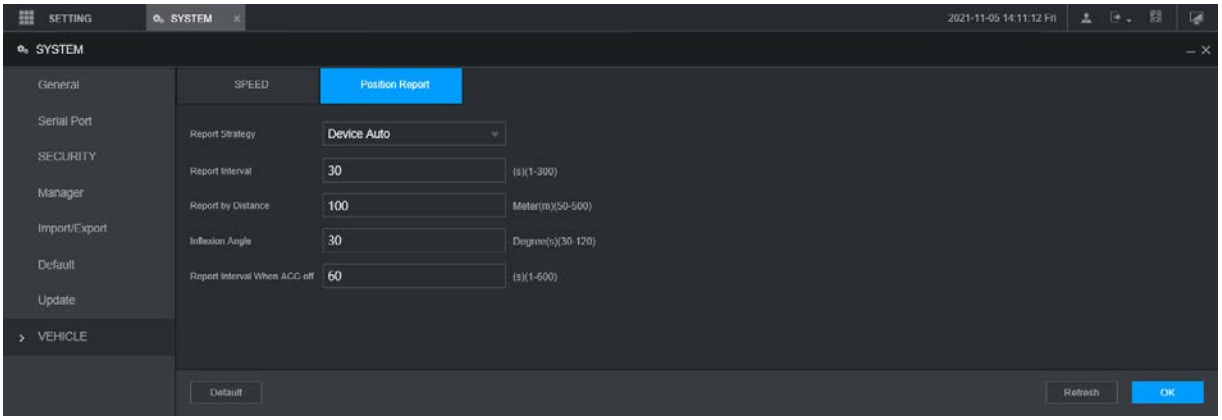
The **Position Report** interface is displayed.

Step 2 Configure the report strategy.

- Device auto.
  1. In **Report Strategy**, select **Device Auto**.

     The **Device Auto** interface is displayed.

     Figure 5-59 Position report (device auto)



  2. Configure parameters.

Table 5-21 Device auto report parameters

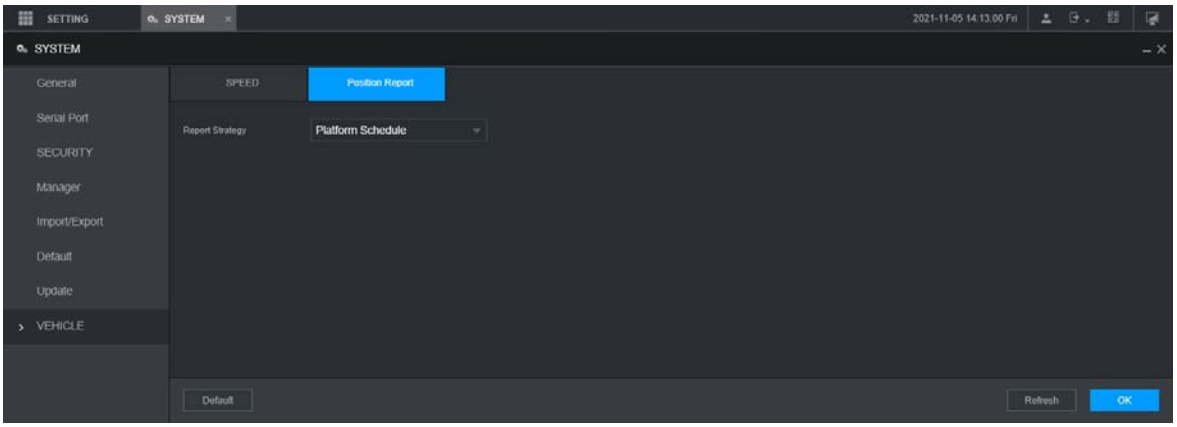
Parameter	Description
Report interval	When the vehicle ACC status is on, the system reports the position to platform according to the configured report interval, report distance, and inflexion angle. The system reports vehicle position to platform as long as one of conditions is satisfied.
Report by distance	
Inflexion angle	
Report interval when ACC off	When the vehicle ACC status is off, the system reports the position to platform based on the configured report interval.

- Platform schedule.

  In **Report Strategy**, select **Platform Schedule**. The **Platform Schedule** interface is displayed.

  The platform obtains the device position by the configured schedule. The schedule is configured at the platform. See the user's manual for the platform.

Figure 5-60 Position report (platform schedule)



Step 3 Click **OK**.

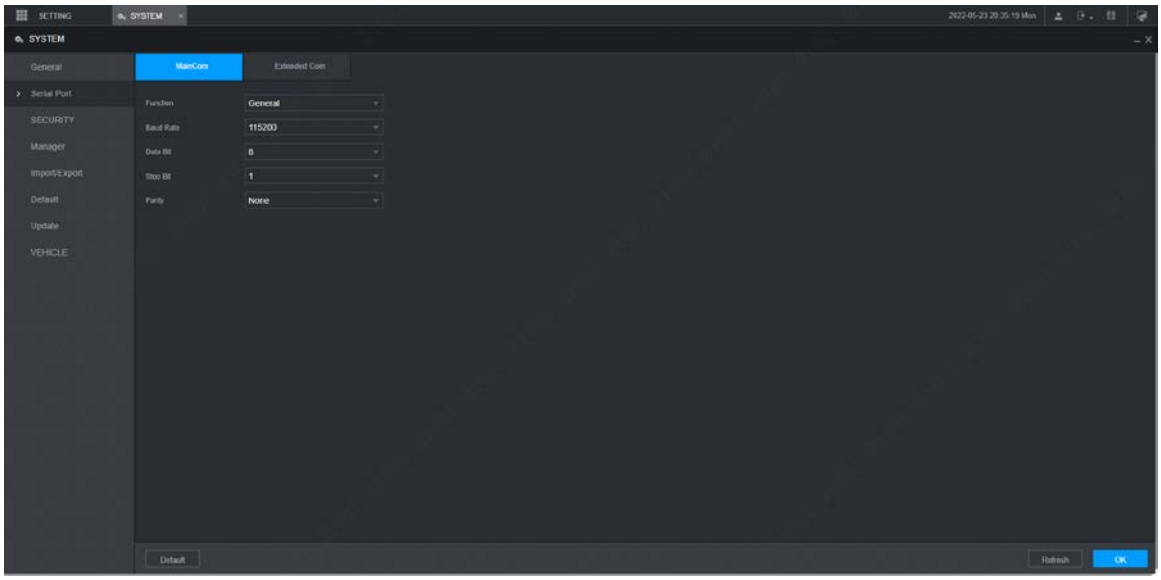
5.8.3 Configuring Serial Port Parameters

You can configure the serial port parameters such as baud rate, date bits, stop bits, and parity.

Step 1 Select **Setting > System > Serial port**.

The **Serial Port** interface is displayed. See Figure 5-61.

Figure 5-61 Serial Port



Step 2 Configure parameters. For details, see

Table 5-22 Serial port setting parameters description

Parameters	Description
Serial Port Function	Select the corresponding protocol. ● Console: Upgrades programs and debug by suing the serial interface and mini terminal software. ● GPS: Used for data communication with GPS module and firmware update, etc. ● Light Box: External vehicle light box, used to judge the device status (such as recording status) by the status of the light in the light box. ● MD02: Used to connect to MD02 broadcast screen, and display alarm sounds and icons.

Parameters	Description
Baud rate	The times of signal changes on the transmission line within one time unit. ● The default baud rate is 115200 for a general serial port. ● The default baud rate is 9600 for the touch screen.
Data bit	Select a data bit. The options include **5, 6**, **7**, and **8**.
Stop bit	Select a stop bit. The options include **1**, **1.5**, and **2**.
Parity	Select a parity mode from **None**, **Odd**, **Even**, **Mark**, and **Space**.

Step 3 Click **OK**.

5.9 Managing User Account

You can add, modify and delete user accounts and groups, and configure security questions for user accounts.

Default User and Authority

The default user account is admin.

- The admin account is defined as the highly privileged user by default.
- To manage user accounts easily, when defining the user account authority, it is recommended to give lower authority to common user accounts than advanced user account.

User and User Group

You can manage the accounts by user and user group, and the names cannot be repeated.

- You can set up to 64 users and 20 groups.
- The default groups **User** and **Admin** cannot be deleted.
- You can modify the authority of a user in group authorities. However, the authorities of the admin account cannot be specified at your will.
- Every user must belong to only one group. When selecting a group for a user, the authority that the user can be granted should be no higher than the group authority.
- Both the user name and group name support 1–31 characters and can only consist of letter, number, underline (_), and hyphen (-).

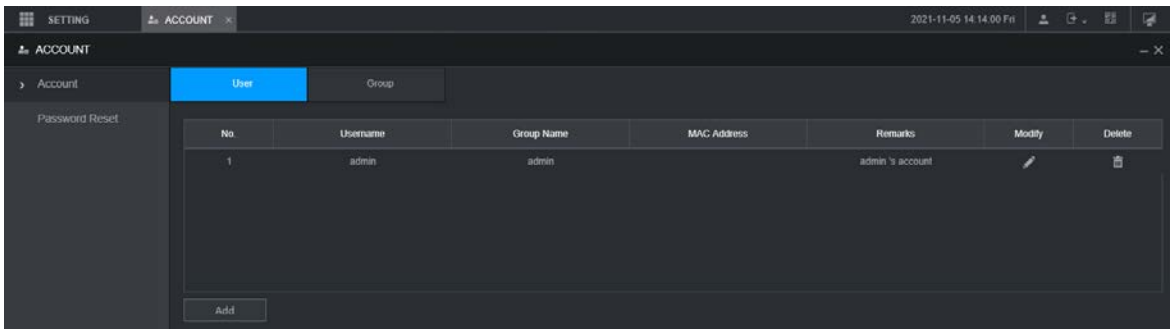
5.9.1 User Management

You can add, delete, or modify a user, and set the authorities for the user in a group.

Adding a user

Step 1 Select SETTING > ACCOUNT > ACCOUNT > User.
The **User** interface is displayed.

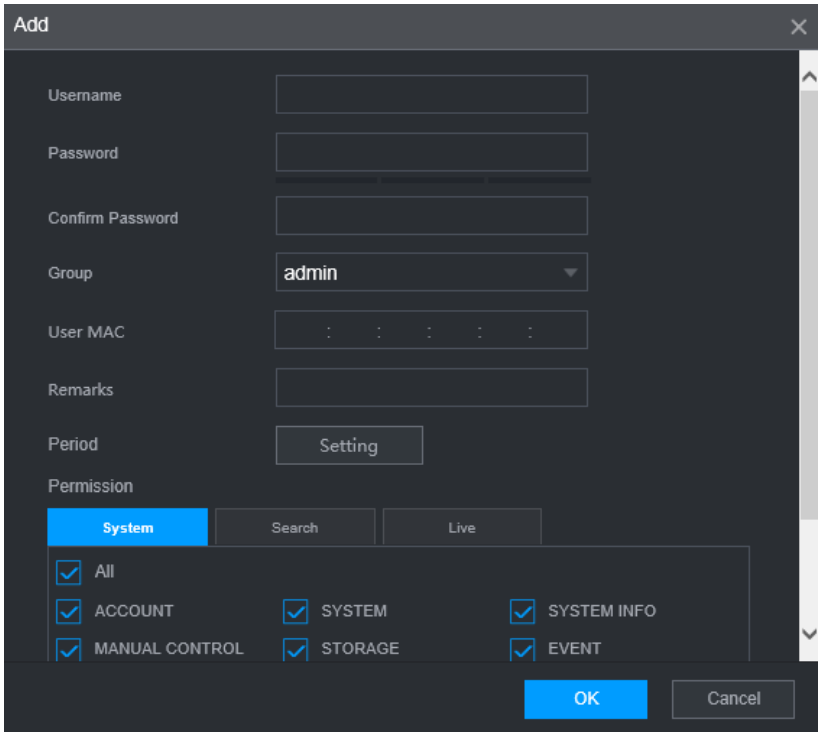
Figure 5-62 User



Step 2 Click **Add**.

The **Add** interface is displayed.

Figure 5-63 Add



Step 3 Configure more settings. See Table 5-23.

Table 5-23 User adding parameters

Parameter	Description
User name	Enter the user name and password, and conform the password.
Password	
Confirm password	
Group	Select a group for the user.
User MAC	Enter user MAC address that is allowed to log in to the device.
Memo	Enter a description of the user.
Period	Click **Setting** to set a valid period. The user is only allowed to log in to the device in the set period.

Authority	You can modify the authority of a user in group authorities. • The authorities of the admin account cannot be changed. • To manage user accounts easily, when defining the user account authority, it is recommended to give lower authority to common user accounts than advanced user accounts.

Step 4 Click **OK**.

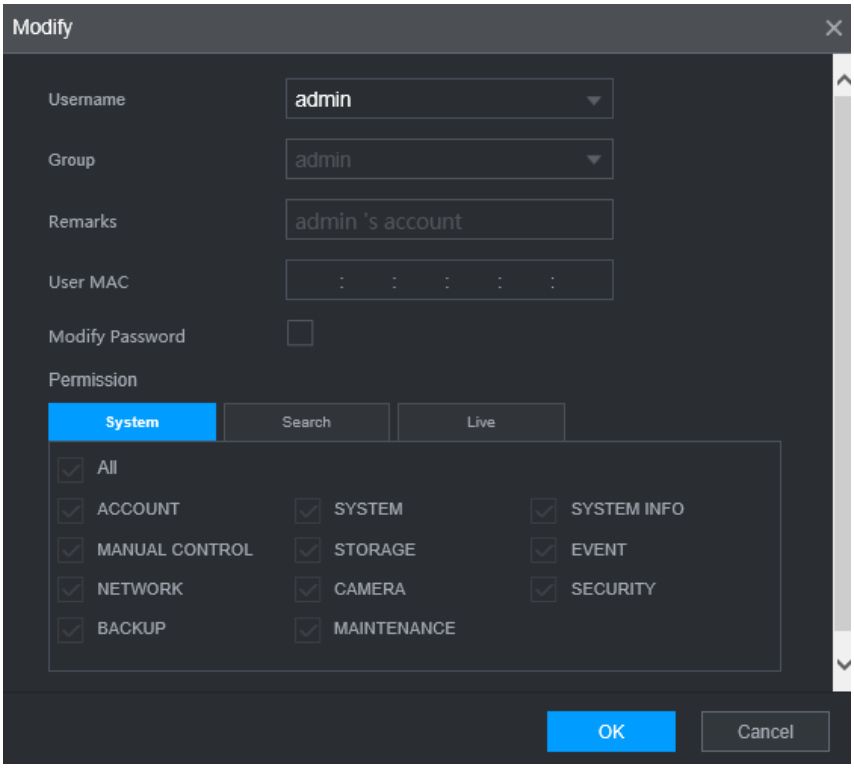
Click to modify user information; click to delete the user.

Modifying Password

Step 1 On the **User** interface, click .

The **Modify** interface is displayed.

Figure 5-64 Modify user



Step 2 Select the **Modify Password** check box, and then enter old password, new password, and confirm password in corresponding boxes.

Step 3 Select the authority, including system, playback, and real-time monitoring authorities.

Step 4 Click **OK**.

- The new password can be set to 8 characters through 32 characters and contains at least two types from number, letter and special characters (excluding ', ", ;, :, and &). Enter a strong password according to the security level indication.
- A user authorized to manage user accounts can modify its own password and the passwords of other users.

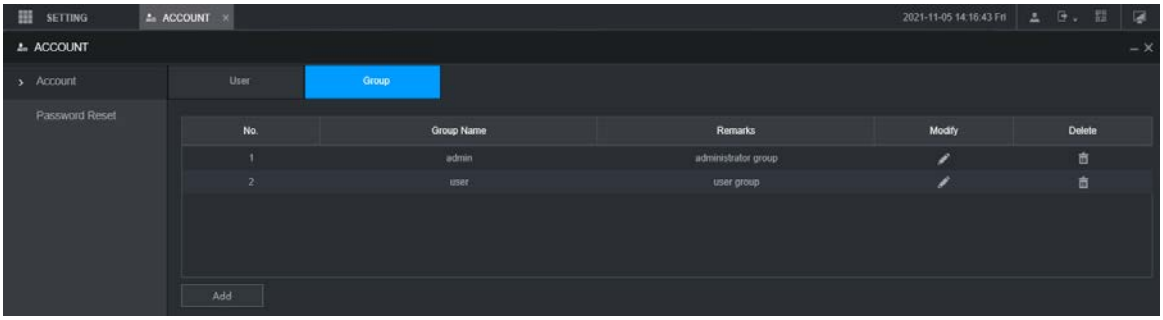
5.9.2 Group Management

You can perform the operations to manage the user group, such as adding a group, deleting a group, and modifying a group.

Step 1 Select SETTING > ACCOUNT > ACCOUNT > Group.

The **Group** interface is displayed.

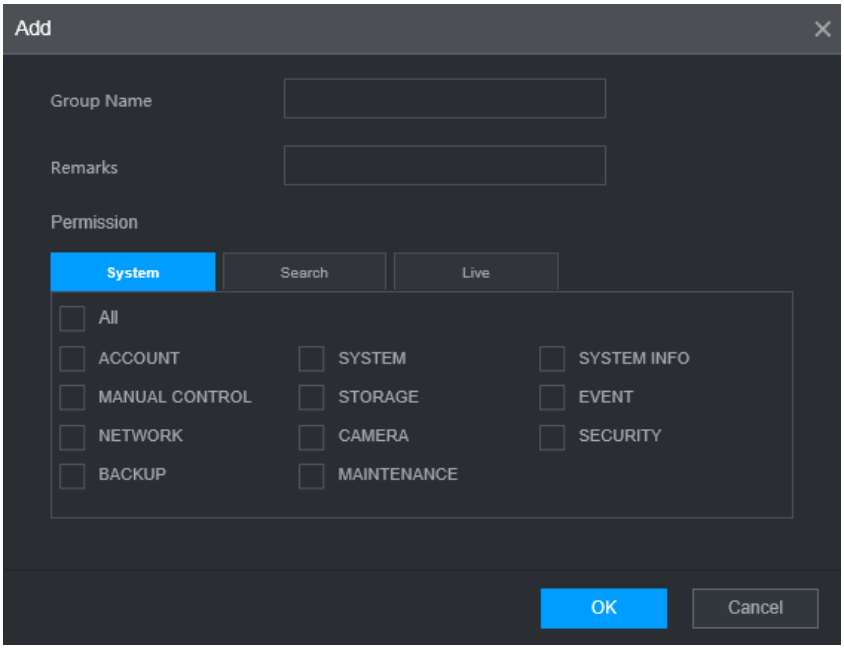
Figure 5-65 Group



Step 2 Click **Add**.

The **Add** interface is displayed.

Figure 5-66 Add group



Step 3 Set group name and memo.

A group name consists of letters, numbers, and special characters (including "_", "@", ".").

Step 4 Select the authority, including system, playback, and real-time monitoring authorities.

Select **All** to select all authorities in the category.

Step 5 Click **OK**.

Click to modify the corresponding group information; click to delete the group.

5.9.3 Resetting Password

You can reset the password by the reserved email address when the password for the admin account is lost.

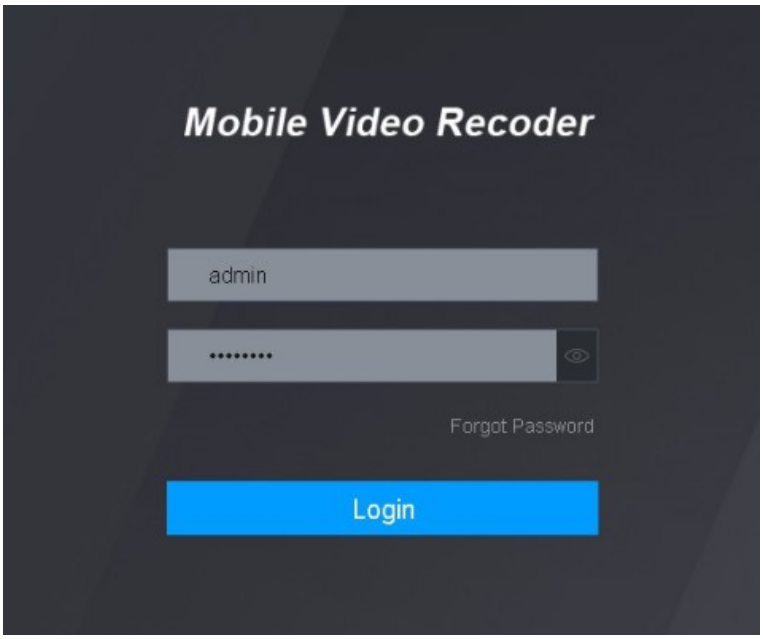
Step 1 Open a browser and log in to the web interface of the device.

The login interface is displayed.

Step 2 Enter the user name admin.

The password setting information is displayed.

Figure 5-67 Login interface



Step 3 Click Forgot Password.

The **Reset** interface is displayed.

Step 4 Click **OK**.

The **Reset Password** interface is displayed.

Step 5 Follow the instructions to scan the QR code in the actual interface and get the security code.

- Scan the QR code on the actual interface of the device. The QR code in this document is for reference only.
- Scanning the same QR code leads to two security codes at most. To get another security code, refresh the QR code interface.
- Use the security code within 24 hours after you receive it. Otherwise, it will become invalid.
- Wrong security code entered for up to five times will cause the admin account locked for five minutes.

Step 6 In the security code box, enter the security code received in your reserved mailbox.

Step 7 Click **Next**.

The **Reset Password** interface is displayed.

Step 8 Reset the New Password and Confirm Password.

The new password can be set to 8 through 32 non-null characters and contains at least two types from number, letter and special characters (excluding ', ", ;, :, and &). Enter a strong

password according to the security level indication.

Step 9 Click **OK**.

The system prompts successful operation. You can use the new password to log in to the device.

6 System Upgrade

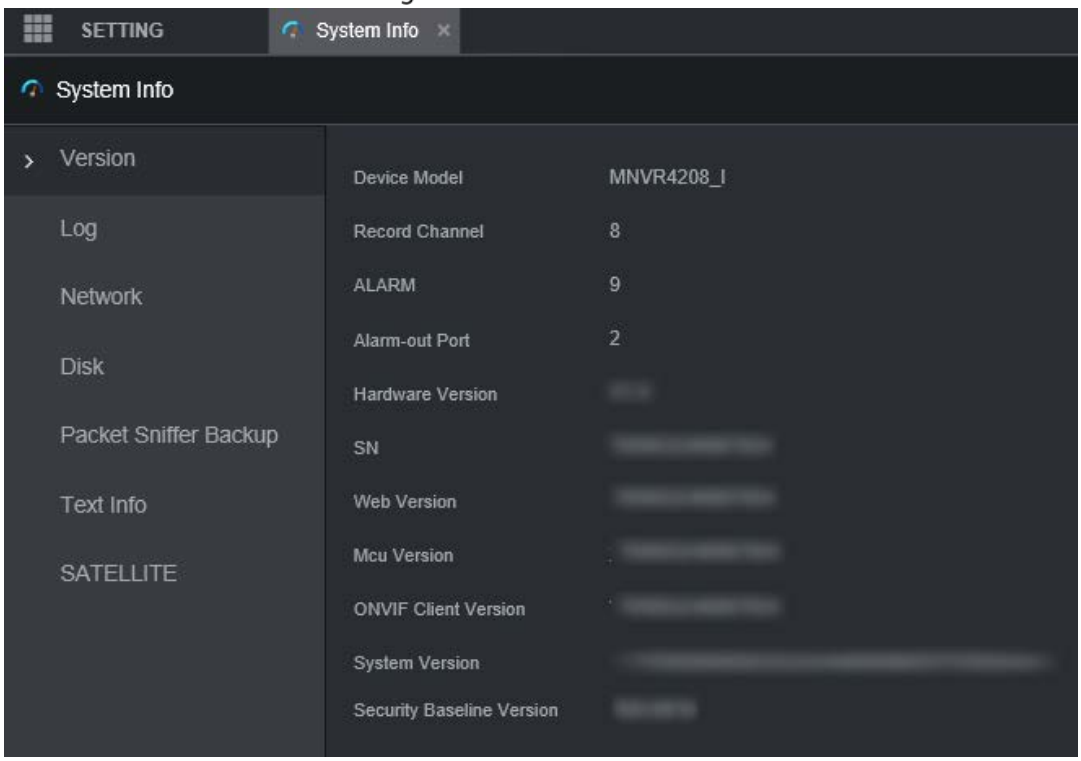
6.1 Viewing System Version

You can view the device version information.

Select **SETTING > System Info > Version.**

The **Version** interface is displayed. See Figure 6-1.

Figure 6-1 Version



6.2 Upgrading System Firmware

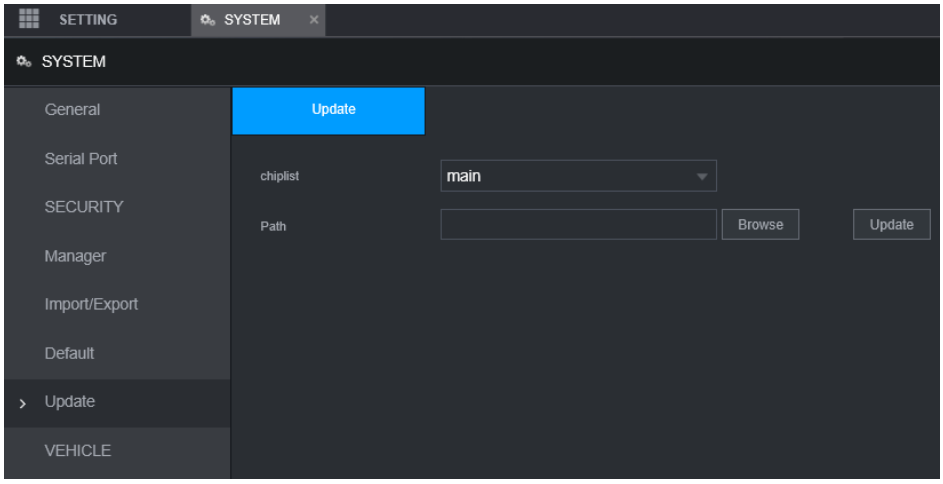
You can import the upgrade files to upgrade the firmware. The upgrade file should be a .bin file.

- During upgrade, do not disconnect from power and network, and restart or shut down the device.
- Upgrading the wrong file might result in the device not working properly.

Step 1 Click SETTING > SYSTEM > Update.

The **Update** interface is displayed.

Figure 6-2 Update



Step 2 Select the chiplist that suits your actual needs.

- To upgrade system programs, select **Main** for the chiplist.
- To upgrade the MCU firmware programs, select **MCU** for the chiplist.

Step 3 Click **Browse** and select the update files you want to use.

Step 4 Click **Update**.

The system starts upgrading. You should log in to the web interface again after upgrading.

7 System Maintenance

7.1 Maintenance Requirement

For the system's good and safe running, it's recommended to manage and maintain the system, back up files in the following methods.

- Check monitoring images regularly.
- Clear the users and user groups not frequently used regularly.
- Modify your password every 3 months.
- Check your system log regularly. Handle problems in a timely manner.
- Back up your configuration of the system regularly.
- Restart the device regularly.
- Upgrade firmware in a timely manner.

7.2 Viewing System Information

You can view device version information, logs, network information, Disk information, channel information and satellite information.

For version information, see 6.1Viewing System Version.

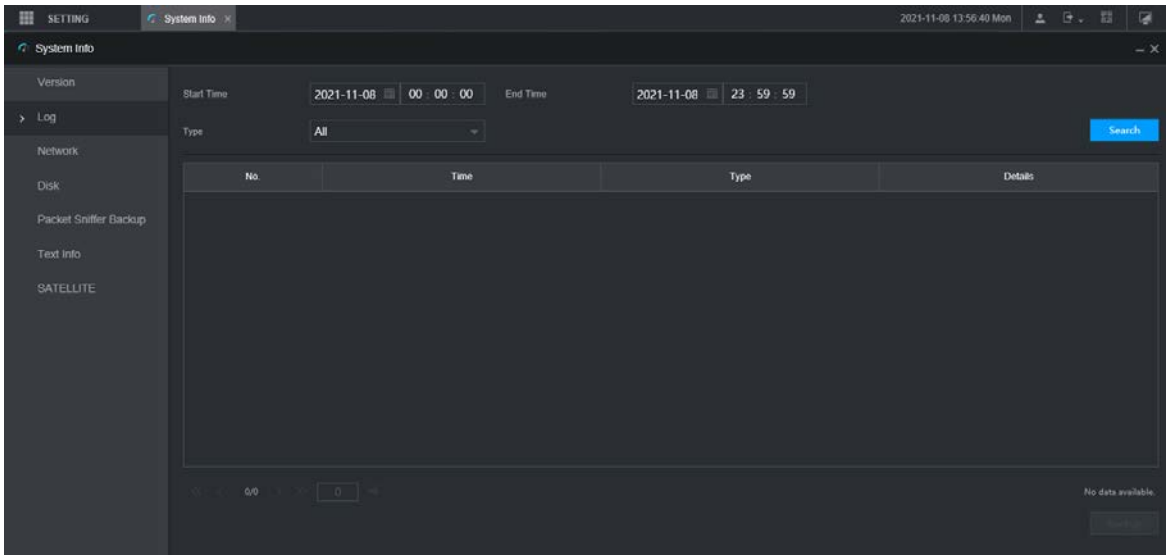
7.2.1 Viewing Log

You can search, view, and back up the logs to local PC.

Step 1 Click SETTING > System Info > Log.

The **Log** interface is displayed.

Figure 7-1 Log



Step 2 Set up Start Time, End Time, and Type.

Step 3 Click **Search**.

The obtained logs are displayed.

Select the log that you want to back up, and then click **Backup**. In the **Save as** dialog box, select the save path to save the log to local PC.

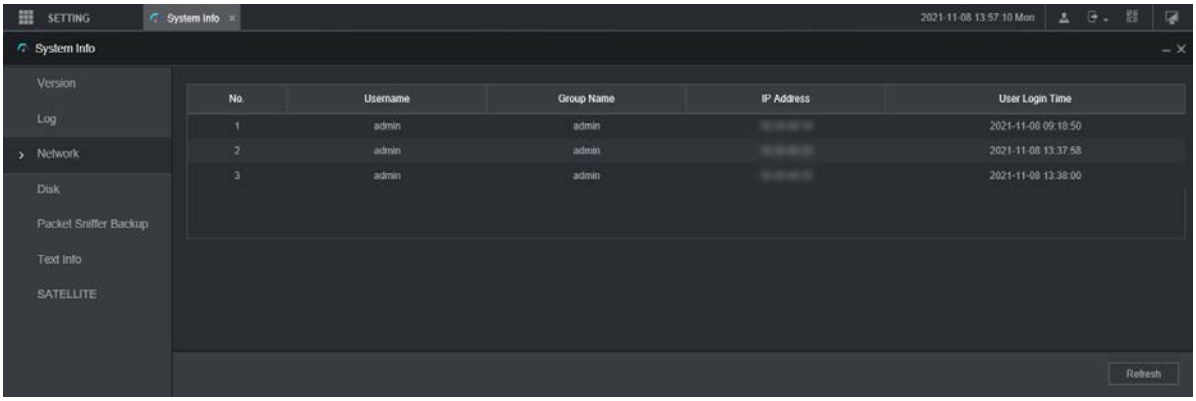
7.2.2 Viewing Network Information

You can view IP information of the logged in device.

Step 1 Click **SETTING > System Info > Network**. The **Network** interface is displayed. See Figure 7-2.

Step 2 Click **Refresh** and the latest network information is displayed.

Figure 7-2 Network information



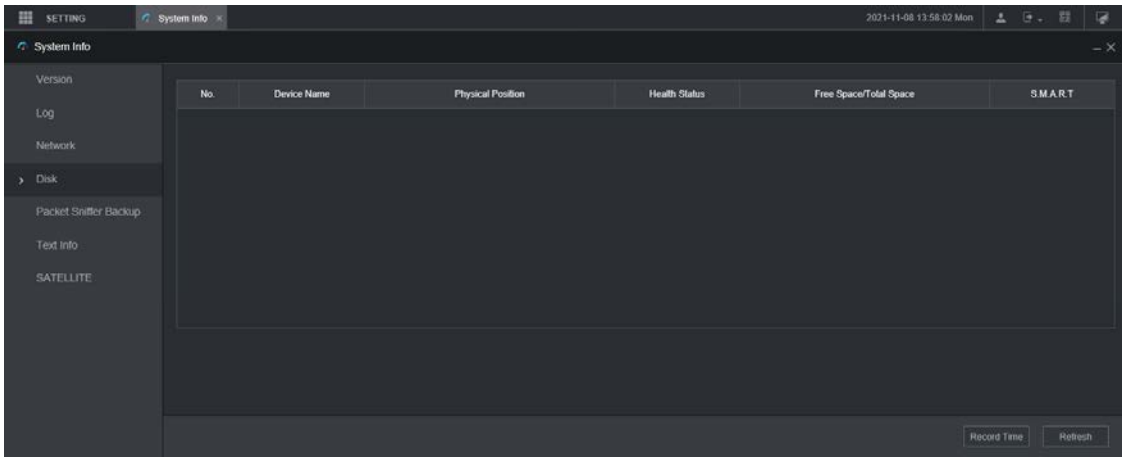
7.2.3 Viewing Disk Information

You can view the HDD information of the device, including Disk name, location, and health.

Step 1 Click **SETTING > System Info > Disk.** The **Disk** interface is displayed. See Figure 7-3.

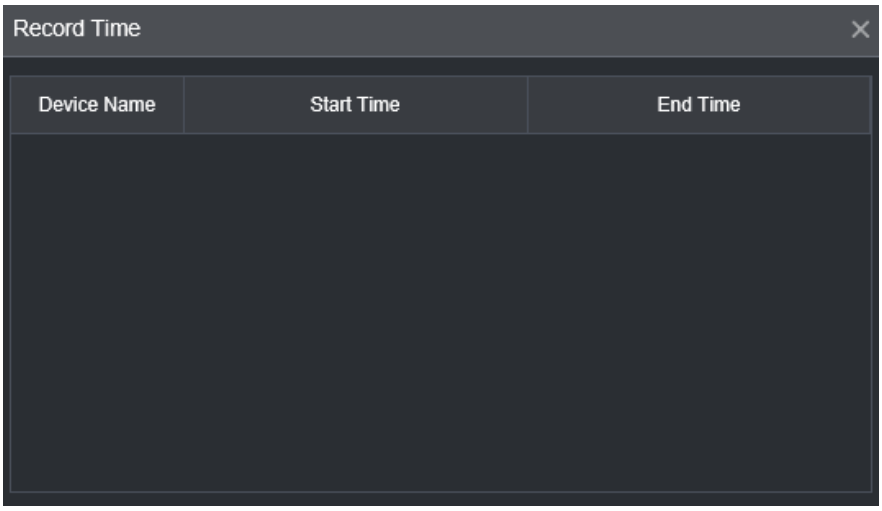
Step 2 Click **Refresh** and the latest Disk information is displayed.

Figure 7-3 Disk information



Step 3 Click **Record Time**, and then the periods of all Disk recordings are displayed. See Figure 7-4.

Figure 7-4 Disk recording period



7.2.4 Viewing Satellite Information

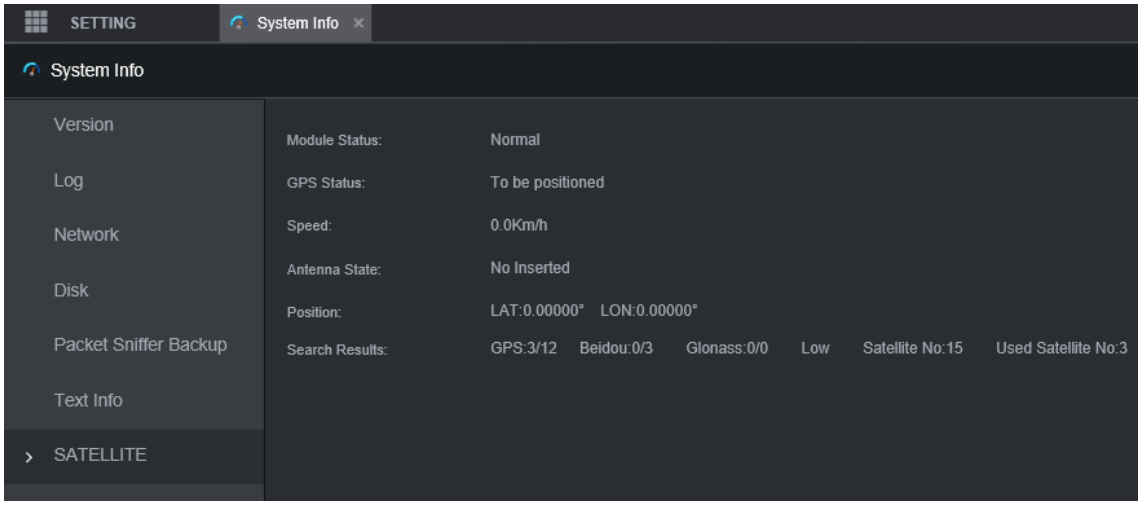
You can view the satellite positioning information such as module state, GPS status, latitude and longitude, and search results.

Click **SETTING > System Info > SATELLITE**.

The **SATELLITE** interface is displayed. Click **Refresh** and the latest satellite information is displayed.

- If the GPS module state indicates Normal but does not position within five minutes, the GPS module automatically resets and repositions. When the positioning information is obtained again, the GPS module reset times is up to 20, or the device is restarted, you can view the GPS module reset records in the log.
- When the GPS module is short-circuited for more than 10 seconds, the module state is abnormal and the GPS module is automatically powered off and no longer powered on. After the device is restarted, the GPS module will be powered on again.

Figure 7-5 Satellite information



7.3 Auto Maintenance

You can configure the automatic maintenance settings such as auto restart, auto deleting old files, auto start, auto shutdown, and delay for auto shutdown.

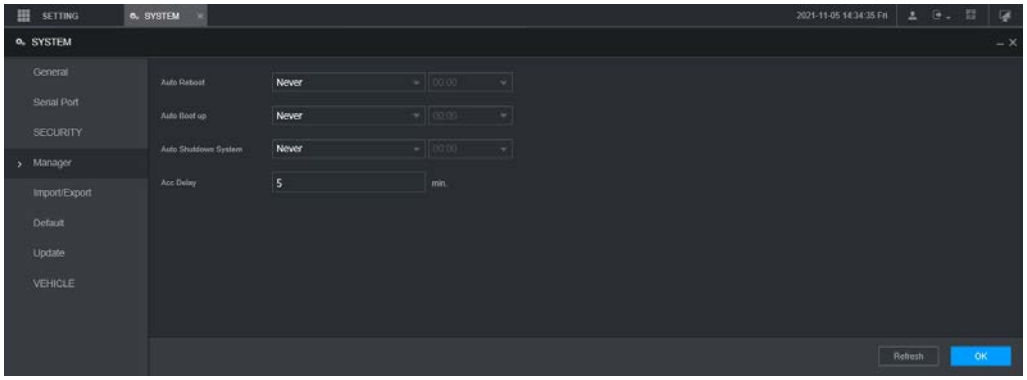
7.3.1 Restarting System

If the device runs for a long time, you can set to automatically restart the device during idle time. After configuring auto restart, when the device is working, it restarts as per the schedule.

Step 1 Select SETTING > SYSTEM > Manager.

The **Manager** interface is displayed.

Figure 7-6 Manager



Step 2 Select auto restart.

- Select **Never**, and the device will never restart automatically.
- Select **Every Day**, set the device restart time, and the device will restart automatically at that time point.
- Select **Monday** to **Sunday**, set the device restart time, and the device will restart automatically at that time point every week. If **Sunday** and **01:00** are selected, the device will restart automatically at 1:00 every Sunday.

Step 3 Click **OK**.

7.3.2 Configuring Auto Start

After configuring auto start, the device starts automatically at the scheduled time point. If you turn the vehicle key to ACC before the configured auto start time, the device starts immediately. When the ACC is powered off, the device will shut down as per the scheduled auto delay for shutdown.

Step 1 Click SETTING > SYSTEM > Manager.

The **Manager** interface is displayed.

Step 2 Select auto start.

- Select **Never**, and the device will never start automatically.
- Select **Every Day** and set the time. When you turn the vehicle key to ACC before this time point, the device starts immediately.

Step 3 Click **OK**.

7.3.3 Configuring Auto Shutdown

After configuring auto shutdown, the device automatically shuts down as per the ACC power off time and auto start setting.

- If you have set the time for auto start, there are two situations when the ACC is powered off: If the system time is between the auto start time and auto shutdown time, the device is turned off at the configured time point. If the system time is before the auto start time or after the auto shutdown time, the device is turned off immediately.
- If the auto start time is not set, when the ACC is disconnected, the device shuts down at the scheduled time point.

Step 1 Click SETTING > SYSTEM > Manager.
The **Manager** interface is displayed.

Step 2 Select auto shutdown.
- Select **Never**, and the device will never shut down automatically.
- Select **Every Day** and set the time. The system will shut down as per the ACC power off time and auto start setting. Select **Every Day** for **Auto Shutdown System**, and then enter the specific time.

Step 3 Click **OK**.

7.3.4 Delay for Auto Shutdown

After configuring delay for auto shutdown, when ACC is disconnected, the device shuts down as per the settings of delay for auto shutdown.

- If you enter a delay value that is not 0, the device automatically shuts down after the preset delay.
- If you enter 0, the device shuts down as per the auto shutdown settings without delay.

Step 1 Click SETTING > SYSTEM > Manager.
The **Manager** interface is displayed.

Step 2 Configure the delay for auto shutdown.
The value ranges from 0 through 65535 minutes. The default value is 5 minutes.

Step 3 Click **OK**.

7.4 Backing Up and Restoring

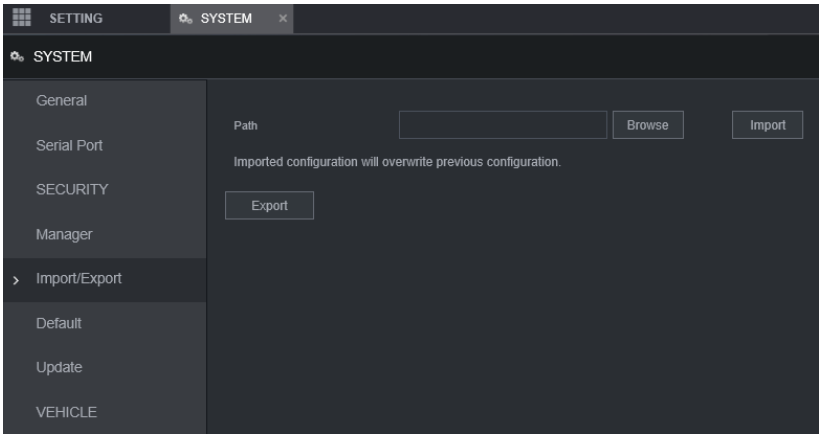
You can back up or restore the web configurations and restore to default settings.

7.4.1 Backing Up Configuration

You can back up all web configurations.

Step 1 Click SETTING > SYSTEM > Import/Export.
The **Import/Export** interface is displayed.

Figure 7-7 Configuration import/export



Step 2 Click **Import**, and select the backup path.
The system starts backing up configurations.

7.4.2 Importing and Exporting Files

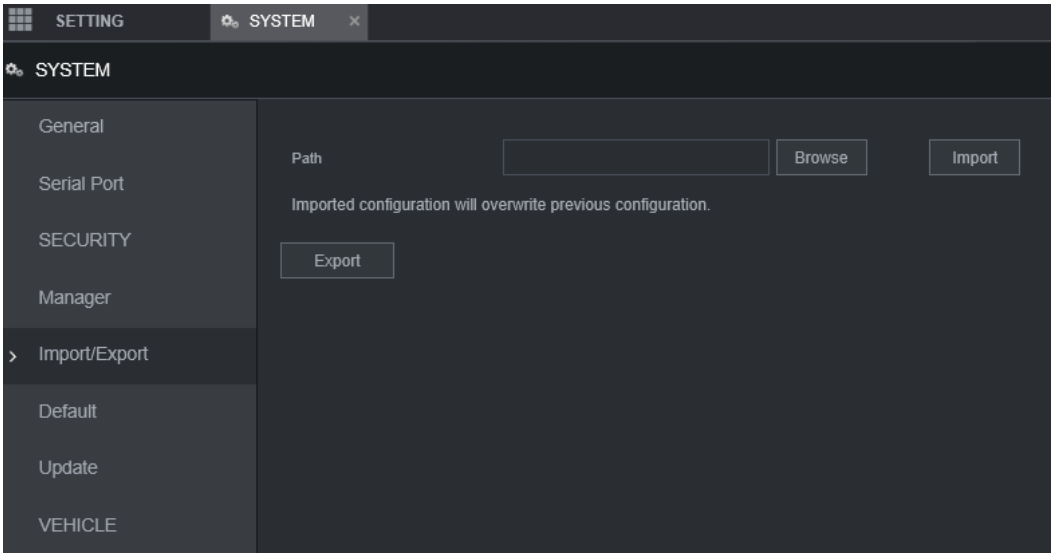
You can back up the configuration of the device by exporting the device profile. When the device is abnormal, you can quickly restore the configurations by importing the profile.

7.4.2.1 Backing Up Files

Export the configurations of the device locally.

Step 1 Select SETTING > SYSTEM > Import/Export.
The **Import/Export** interface is displayed.

Figure 7-8 Import/export (1)



Step 2 Click **Export** and select the path to save the profile.

7.4.2.2 Importing Files

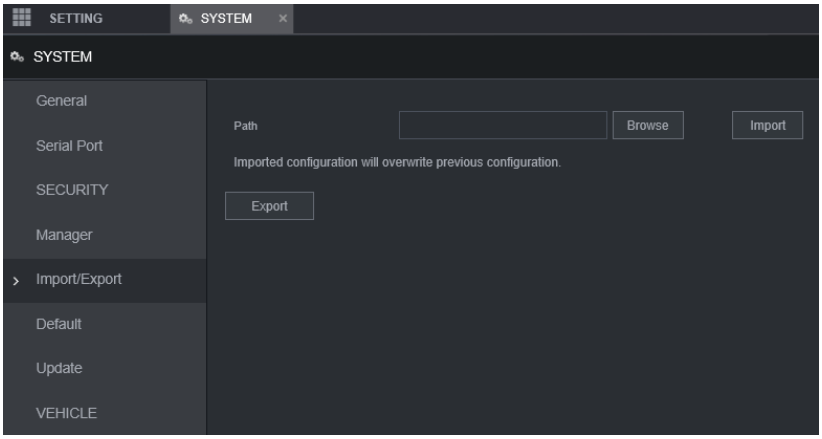
You can use the backed up configurations to quickly configure the device and restore the device

configurations.

Step 1 Select SETTING > SYSTEM > Import/Export.

The **Import/Export** interface is displayed.

Figure 7-9 Configuration import/export (2)



Step 2 Click **Browse**, and then select the backup file you want to import.

Step 3 Click **Import**.

The system pops up the restart message. Click **OK**, and the system starts importing the configurations and restart the device after importing is completed.

7.4.3 Restoring to Default

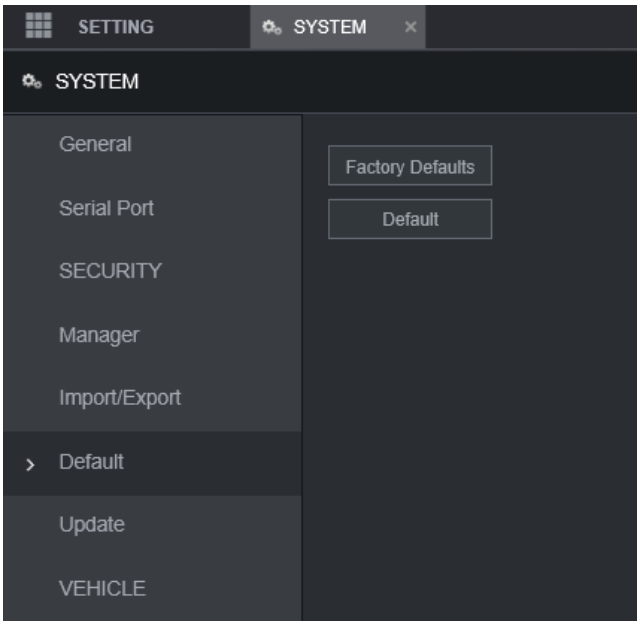
You can restore the system to default configurations or the factory default. Only the user with the default & upgrade authorities can do this.

The corresponding functions will be restored to the factory settings, and your current configurations will be lost. Proceed with caution.

Step 1 Click SETTING > SYSTEM > Default.

The **Default** interface is displayed.

Figure 7-10 Factory default settings



Step 2 Select corresponding check box you want to use for restoring.

- Default: Click **Default**, and the **Reboot** dialog box is popped up. See Figure 7-11. Then click **OK**. All configurations other than user name, password, security questions and device IP are restored to the default configuration of the device.
- Factory Default: Click **Factory Defaults**, and the **Reboot** dialog box is displayed. See Figure 7-12. Then click **OK**, and the system restarts. After the device is restarted, the system will restore to factory defaults, and the device requires initialization again. Proceed with caution.

  When there is a user operating on the Local interface, restoring to factory defaults cannot be performed until the local user logs out.

Figure 7-11 Reboot prompt (1)

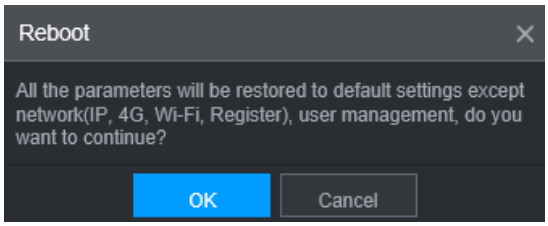
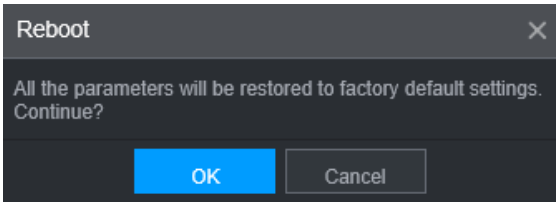


Figure 7-12 Reboot prompt (2)



7.5 Network Sniffer

The packet data can be provided to the developers or engineers to analyze the network usage.

Preparation

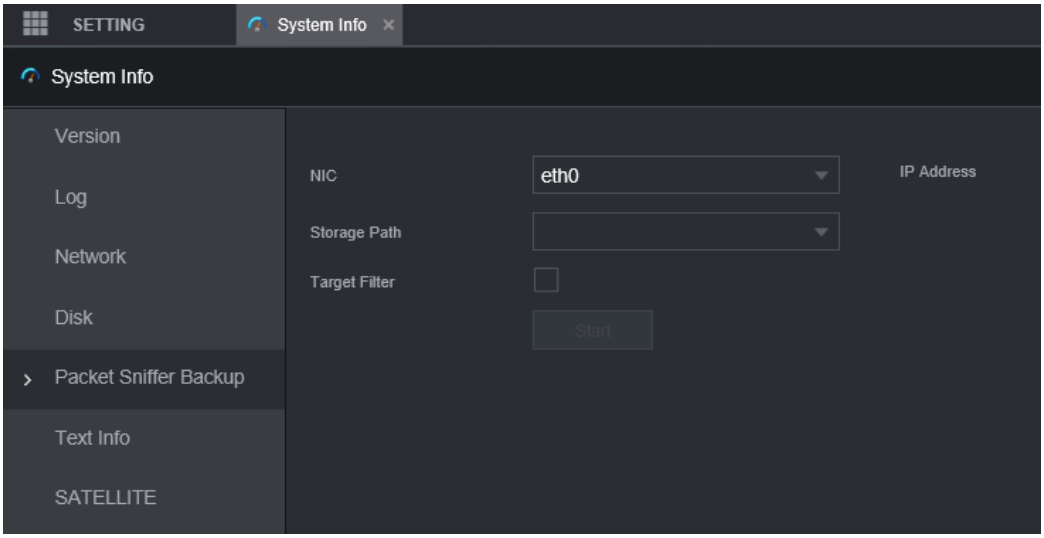
The device being captured is connected to an external backup device.

Procedure

Step 1 Click SETTING > System Info > Packet Sniffer Backup.

The **Packet Sniffer Backup** interface is displayed.

Figure 7-13 Packet Sniffer Backup



Step 2 Select the Ethernet port and save path.

Step 3 Select the **Target Filter** check box, and then enter the IP address that you want to filter.

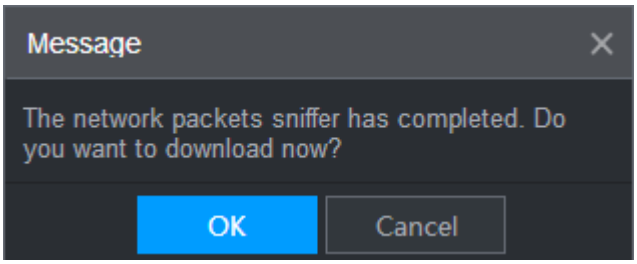
Step 4 Click **Start**.

The system starts the sniffer, and the data will be stored to the external backup device.

Step 5 Click **Stop**.

The **Prompt** dialog box is displayed. See Figure 7-14.

Figure 7-14 Prompt



Step 6 Click **OK** or **Cancel**. Click **OK** to download the files locally. Viewed those files in the storage path; click **Cancel** to stop downloading.

8 Operating by DSS

Beside from web, you can also remotely log in to the Recorder from Digital Surveillance System (DSS). For details, see the manual of DSS.

9 FAQ

If your questions cannot be answer by the following contents, please contact your local service engineer or the service of our Headquarters for help. We can guide you to solve this problem.

1) **Q: Disconnect the constant electricity but the Recorder is still working.**

   A: Possible causes:

   - The default 5-minute shutdown delay is effective.
   - The UPS setting provides constant power supply to the Recorder when the lithium battery voltage is above 7V.
   - ACC is connected.

2) **Q: The Recorder gives squeal after it is boot up.**

   A: Possible causes:

   - Connecting to the display and being too close to the camera.
   - A single channel interface or a large-image multi-channel interface. The first channel of sound comes from a local source.

3) **Q: The interface shows that no SIM card is detected.**

   A: Possible causes:

   - SIM card not inserted.
   - Micro SIM card reversely inserted with its notch facing outward. Follow instructions on the label to insert the SIM card.
   - SIM card is damaged.

4) **Q: DVR cannot boot up properly.**

   A: Possible causes:

   - The input power is not correct; the input voltage is too low or too high.
   - Poor contact in the input power cable or incorrect wiring.
   - HDD is damaged or poor contact between the HDD carrier and HDD.
   - Main board is damaged.

5) **Q: DVR automatically reboots or frequently crashes.**

   A: Possible causes:

   - Input voltage is not stable or too low.
   - The Recorder is not properly installed, which result in poor contact between components.
   - Poor heat dissipation and too many dusts result in poor working environment for the Recorder.
   - Hardware malfunction.

6) **Q: HDD cannot be detected after rebooting.**

   A: Possible causes:

- HDD not installed.
- Poor contact between the HDD carrier and HDD.
- HDD is damaged.

7) Q: Blank screen in a channel of the display

A: Possible causes:

- A camera is damaged. Replace the damaged camera.
- The connection wire is damaged. Replace the damaged connection wire.

8) Q: No video output from single-channel, multiple-channel or all-channel.

A: Possible causes:

- Program is not compatible. Please upgrade to the correct version.
- Brightness value of all channel is 0. Please restore to default setting.
- No video input signal or the signal is too weak.
- Channel protection or screen protection is configured.
- Hardware malfunction.

9) Q: Real-time video image is abnormal, such as color and brightness is distorted.

A: Possible causes:

- NTSC and PAL settings are not correct, and the image becomes black and white.
- Recorder and monitor resistance is not compatible.
- Video network transmission distance is too far or transmission line signal attenuation is too much.
- NVR color or brightness settings are not correct.

10) Q: No recorded video can be found in local playback.

A: Possible causes:

- Poor contact between the HDD carrier and HDD.
- HDD is damaged.
- Upgraded program is not compatible.
- The recording file that you want to search has been overlapped.
- The recorded file is not opened.

11) Q: Video is distorted in local search.

A: Possible causes:

- Video quality setting is too low.
- Program read error, bit data is too small, and there is full of mosaic in the screen. Please firstly try to restart the DVR to solve this problem.
- Disk error
- Hardware malfunction.

12) Q: The monitor has no sound.

A: Possible causes:

- It is not an active speaker.
- Audio cable is damaged.
- Hardware malfunction.

13) Q: There is audio under monitoring state but no audio under playback state.

A: Possible causes:

- Audio function is not enabled.
- The corresponding channel does not connect to the camera. Playback is not continuous when the screen is blue.

14) Q: System time is not correct.

A: Possible causes:

- Setting is not correct.
- Poor battery contact or voltage is too low.
- Crystal oscillator is poor.

15) Q: USB backup error.

A: Possible causes:

- Too much data which occupies CPU resources. Please stop recording first and then begin backup.
- Backup Recorder is not compatible.
- Backup Recorder is damaged.
- The backup Recorder features high power and needs separate power supply.

16) Q: Alarm function does not work.

A: Possible causes:

- Alarm setting is not correct.
- Alarm cable connection is not correct.
- Alarm input signal is not correct.
- There are two loops connected to one alarm Recorder.

17) Q: Messy channel display.

A: Possible causes:

- Incorrect selection of camera type. Auto switch is recommended.
- The camera is damaged.

18) Q: Record storage time is not enough.

A: Possible causes:

- Low camera quality, dirty lens, camera installed against the light, or iris not properly adjusted caused large big rate.
- HDD capacity is not enough.
- The HDD is damaged.

19) Q: No 3G/4G dial-up. No dial-up IP,

A: Possible causes:

- Check if the SIM card is normal.
- Check if the SIM card is not in service.
- Check if the 3G/4G antenna is connected as intended.
- Check if the 3G/4G signals are strong enough.
- Try out with another SIM card.

20) Q: 3G/4G platform is not online.

A: Possible causes:

- Check if 3G/4G dial-up is normal.
- Check if local active registration is correctly set up.
- Check if the sever terminal is correctly set up.

21) Q: No GPS data.

A: Possible causes:

- Check if the GPS antenna is connected as intended.
- Make sure the GPS antenna is in a place where signals are not blocked.

22) Q: GPS drifting and produces speed for no reason.

A: Possible causes:

Weak GPS signal.

Appendix 1 Mouse Operations

The operations are based on the considerations for right-handed users.

Beside the operations from the front panel and remote control, you can also use mouse to operate menus. Insert the mouse to the USB port of the Recorder.

Operation	Function
Click the left mouse button	If the user has not logged into the system, the password box is displayed first. During real-time monitoring, click the left mouse button to go to the main menu.
	When you have selected one menu item, click it to view menu content.
	Implement the operations indicated on the control.
	Change the status of the check box.
	Click the combo box, the drop-down list is displayed.
	In text box, click the corresponding button on the panel to enter a numeral, punctuation, English character (small/capitalized), or Chinese. Left-click the symbol on the panel to complete value input; ← represents backspace, and _ represents space. In English input mode: Click _ to enter a space, and click ← to delete the previous character.   In numeral input mode: Click _ to delete all numbers, and click ← to delete the previous number.  In special characters input mode: For the numbers and characters on the soft panel, press the numbers on the front panel to enter the corresponding characters, for example, press 1 means entering /. You can also directly use the mouse to click to enter the characters. 

Double-click the left mouse button	The special operation to perform a specific action. For example, double-click the recorded video file to start playback.
	In multi-image, double-click a channel image to display it in full screen. Double-click again to restore the previous multi-window screen.
Right-click	In the real-time monitoring screen, right-click on the screen, the shortcut menu is displayed. You can configure the settings including multi-image mode (related to the number of channels of the Recorder), PTZ control, color setting, recording search, recording control, alarm output, and main menu. To use PTZ control and color setting apply to the images corresponding to the pointer. If it was multi-image mode before settings, the system auto switches to the single images of corresponding channels first.
	Do not save the setting and exit the current menu.
Wheel button	In numeral input box, rotate the wheel button to increase or decrease the numeral value.
	Switch between items in the combo box.
	Page up or page down.
Move	Select and move a control of the current coordinates or one of its items.
Drag	Box select an area and set up area overlap.

Appendix 2 Disk Capacity Calculation

In the first installation of the HDD, check whether the HDD is already installed. To install IDE HDD, pay attention to the jumper of the HDD.

HDD capacity calculation formula:

Total capacity (M) = Channel number × Demand time length (hour) × HDD capacity occupied per hour (M/hour)

Recording time calculation formula:

$$\text{Recording time (hour)} = \frac{\text{HDD total capacity (M)}}{\text{HDD capacity occupied per hour (M/hour)} \times \text{Channel number}}$$

The Recorder adopts MPEG4/H.264 compression technology, which features a large dynamic range. Therefore, when calculating HDD capacity, you should accord to the bit rate to evaluate the file size generated per hour from each channel.

Appendix 3 Cybersecurity Recommendations

Mandatory actions to be taken for basic device network security:

1. **Use Strong Passwords**

   Please refer to the following suggestions to set passwords:

   - The length should not be less than 8 characters.
   - Include at least two types of characters; character types include upper and lower case letters, numbers and symbols.
   - Do not contain the account name or the account name in reverse order.
   - Do not use continuous characters, such as 123, abc, etc.
   - Do not use overlapped characters, such as 111, aaa, etc.

2. **Update Firmware and Client Software in Time**

   - According to the standard procedure in Tech-industry, we recommend to keep your device (such as NVR, DVR, IP camera, etc.) firmware up-to-date to ensure the system is equipped with the latest security patches and fixes. When the device is connected to the public network, it is recommended to enable the "auto-check for updates" function to obtain timely information of firmware updates released by the manufacturer.
   - We suggest that you download and use the latest version of client software.

"Nice to have" recommendations to improve your device network security:

1. **Physical Protection**

   We suggest that you perform physical protection to device, especially storage devices. For example, place the device in a special computer room and cabinet, and implement well-done access control permission and key management to prevent unauthorized personnel from carrying out physical contacts such as damaging hardware, unauthorized connection of removable device (such as USB flash disk, serial port), etc.

2. **Change Passwords Regularly**

   We suggest that you change passwords regularly to reduce the risk of being guessed or cracked.

3. **Set and Update Passwords Reset Information Timely**

   The device supports password reset function. Please set up related information for password reset in time, including the end user's mailbox and password protection questions. If the information changes, please modify it in time. When setting password protection questions, it is suggested not to use those that can be easily guessed.

4. **Enable Account Lock**

   The account lock feature is enabled by default, and we recommend you to keep it on to guarantee the account security. If an attacker attempts to log in with the wrong password several times, the corresponding account and the source IP address will be locked.

5. **Change Default HTTP and Other Service Ports**

   We suggest you to change default HTTP and other service ports into any set of numbers between 1024–65535, reducing the risk of outsiders being able to guess which ports you are using.

6. **Enable HTTPS**

   We suggest you to enable HTTPS, so that you visit Web service through a secure communication channel.

7. **MAC Address Binding**

   We recommend you to bind the IP and MAC address of the gateway to the device, thus reducing

the risk of ARP spoofing.

8. **Assign Accounts and Privileges Reasonably**

   According to business and management requirements, reasonably add users and assign a minimum set of permissions to them.

9. **Disable Unnecessary Services and Choose Secure Modes**

   If not needed, it is recommended to turn off some services such as SNMP, SMTP, UPnP, etc., to reduce risks.

   If necessary, it is highly recommended that you use safe modes, including but not limited to the following services:

   - SNMP: Choose SNMP v3, and set up strong encryption passwords and authentication passwords.
   - SMTP: Choose TLS to access mailbox server.
   - FTP: Choose SFTP, and set up strong passwords.
   - AP hotspot: Choose WPA2-PSK encryption mode, and set up strong passwords.

10. **Audio and Video Encrypted Transmission**

    If your audio and video data contents are very important or sensitive, we recommend that you use encrypted transmission function, to reduce the risk of audio and video data being stolen during transmission.

    Reminder: encrypted transmission will cause some loss in transmission efficiency.

11. **Secure Auditing**

    - Check online users: we suggest that you check online users regularly to see if the device is logged in without authorization.
    - Check device log: By viewing the logs, you can know the IP addresses that were used to log in to your devices and their key operations.

12. **Network Log**

    Due to the limited storage capacity of the device, the stored log is limited. If you need to save the log for a long time, it is recommended that you enable the network log function to ensure that the critical logs are synchronized to the network log server for tracing.

13. **Construct a Safe Network Environment**

    In order to better ensure the safety of device and reduce potential cyber risks, we recommend:

    - Disable the port mapping function of the router to avoid direct access to the intranet devices from external network.
    - The network should be partitioned and isolated according to the actual network needs. If there are no communication requirements between two sub networks, it is suggested to use VLAN, network GAP and other technologies to partition the network, so as to achieve the network isolation effect.
    - Establish the 802.1x access authentication system to reduce the risk of unauthorized access to private networks.

Enable IP/MAC address filtering function to limit the range of hosts allowed to access the device.