# Device Network SDK

## Programming User Manual

## V4.2

## (For Decoder)

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# 1 SDK Overview

The device network SDK is developed based on private network communication protocol, and it is designed for the remote connection and configuration of embedded devices. This document is mainly for decoder, and the main device types are listed as below:

DS-6300D(-JX), DS-6400HD(-JX/-T) series decoder

**This document introduces only the major function supported by decoder, and please get more information about other function and related structures from "Device Network SDK Programming Manual.chm".**

**The device network SDK has both Windows and Linux version.**

1. Windows version supports Windows7/XP/2000/2003/Vista(32bit), and it has the files:

| | | |
|---|---|---|
| Network Communication Library | HCNetSDK.h | head file |
| | HCNetSDK.lib | LIB file |
| | HCNetSDK.dll | DLL file |
| Qos Library | QosControl.dll | DLL file |
| RTSP Communication Library | StreamTransClient.dll | DLL file |
| Software Decode Library | PlayM4.h | head file |
| | PlayCtrl.lib | LIB file |
| | PlayCtrl.dll | DLL file |
| Encapsulation Transformation Library | SystemTransform.dll | DLL file |
| Hardware decode Library | DataType.h and DecodeCardSdk.h | head file |
| | DsSdk.lib | LIB file |
| | DsSdk.dll | DLL file |

2. Linux version supports the system(32bit) that gcc-v is 4.1 or above. The tested system have RedHat AS 5/6, (Fedora)FC10/12, CentOS 5, SUSE 10, openSUSE 11, and Ubuntu 9.04/10.04. The SDK has the files:

| | | |
|---|---|---|
| Network Communication Library | hcnetsdk.h | head file |
| | libhcnetsdk.so | SO file |

| | | |
|---|---|---|
| Qos Library | libQosControl.so | SO file |
| RTSP Communication Library | libStreamTransClient.so | SO file |
| Software Decode Library | playsdkpu.h | head file |
| | libm4play.so | SO file |
| Encapsulation Transformation Library | libSystemTransform.so | SO file |

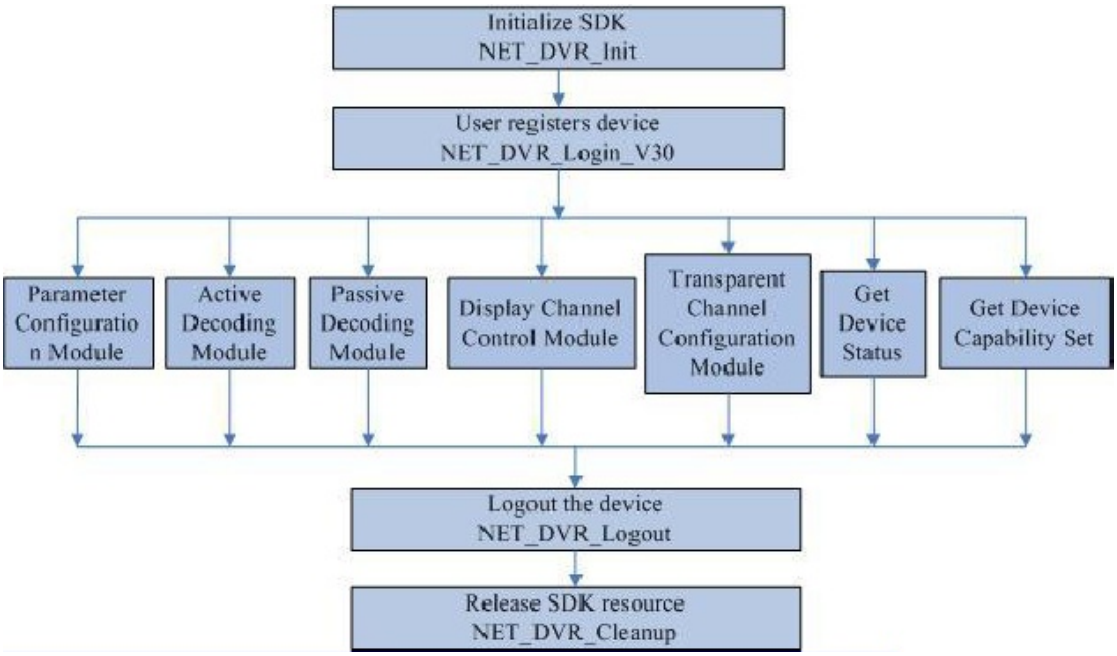
HCNetSDK is required to be loaded for client development, and the other '.dll' files are optional components.

- The Network Communication Library is the main functional part of the device network SDK. It is used for communication between the client and devices, including remote control & configuration, video stream acquiring and handling, etc; and Network communication library will dynamically loading RTSP communication library, Software decoding library, Hardware decoding library, etc. Network communication library combines a lot of functions from the Software decoding library and Hardware decoding library to facilitate the programming work. However, it is suggested the users to get video stream from 'HCNetSDK.dll', and call relative APIs in the Software decoding library or Hardware decoding library directly if you want to build a system with more complete functions, or in a more flexible way.
- The 'QosControl' library is stream bitrate control library, used for push mode SDK.
- RTSP Communication Library only supports IP devices. Users need to load this component for operations like streaming from products which support RTSP protocol.
- Software Decoding Library is used for decoding real-time video stream (remote live view), playback files, etc. It has included standard stream decoding function. If users needs to play real-time stream or recoding data and display(i.e. the second structure parameter play handle of NET_DVR_RealPlay_V30 interface set to effective), must load this component. However, if users just need to use it for capturing data, then do external operation, needn't load this component, this way is more flexible.
- Encapsulation transformation library function can be divided into two pieces: one is converting standard stream data to private encapsulation format stream data. When users need to capture private format stream data from products supporting RTSP protocol(that is setting callback function of NET_DVR_RealPlay_V30 interface for capturing data or call NET_DVR_SetRealDataCallBack interface to capture data), must load this component. Another is converting standard stream data to other package format, such as 3GPP,PS and so on. For example, when users need to capture specific package format real-time stream data from products supporting RTSP protocol(corresponding interface is NET_DVR_SaveRealData), must load this component.
- Hardware Decoding Library can only be used when there is MDI card installed in the PC, and it can output video or video matrix to analog monitors. For decoder, this library is not required.

# 2 API Calling Procedure

**Notes**: The part in dashed box is optional and will not affect the function and use of other process and modules.

## 2.1 The Calling Procedure of Decoder




Fuction modules of multi-channel decoder include display channel control, parameter configuration, dynamic decoding, passive decoding, transparent channel configuration, getting device status information and getting device capability set modules. All modules need to register user to the device, and the user ID returned from NET_DVR_Login_V30 is used as parameter of other APIs.

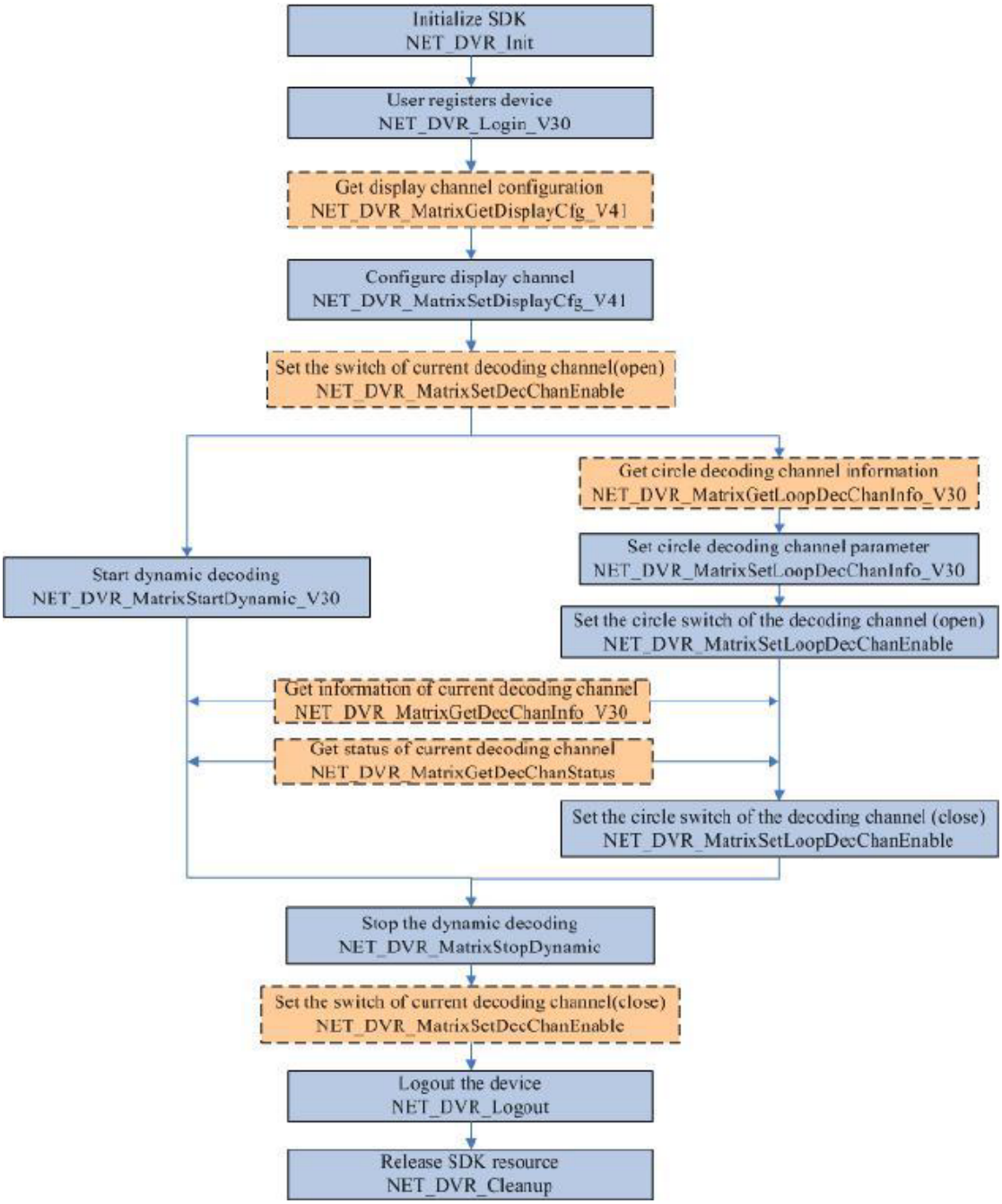
- Display channel control module: configuration of each parameter of display channel, audio turn on & off, and zoom control of child window. For details, please refer to "Configuration and Control of Display Channel".
- Parameter configuration module: to configure the basic parameters of the multi-channel decoder, the related APIs: NET_DVR_GetDVRConfig and NET_DVR_SetDVRConfig. For details, please refer to “Parameter Configuration”.
- Active decoding module: the decoder gets the stream data from encoder devices actively, then decodes the data. The related function has: 1) get the parameter of dynamic decoding; 2)control the decoding, including the starting and stopping the dynamic decoding and circle decoding, controlling the playback of remote files, and getting the status of decoding; 3) upload LOGO to the decoder. For details, please refer to “Active Decoding Procedure”.
- Passive decoding module: start decoding, send data and stop decoding of passive decoding channels. For details, please refer to “Passive Decoding Procedure”.
- Transparent channel configuration module: configure related parameters of transparent

channel. For details, please refer to “Transparent Channel Configuration”.

- Get device status information: It supports to get the status information of decoding, alam input, alarm output, and voice talk by calling NET_DVR_MatrixGetDeviceStatus_V41.
- Get device capability set: It supports to get the capability information ofdisplay and decoding by calling NET_DVR_GetDeviceAbility.

## 2.2 Active Decoding Procedure

### 2.2.1 Decode Real-time Stream



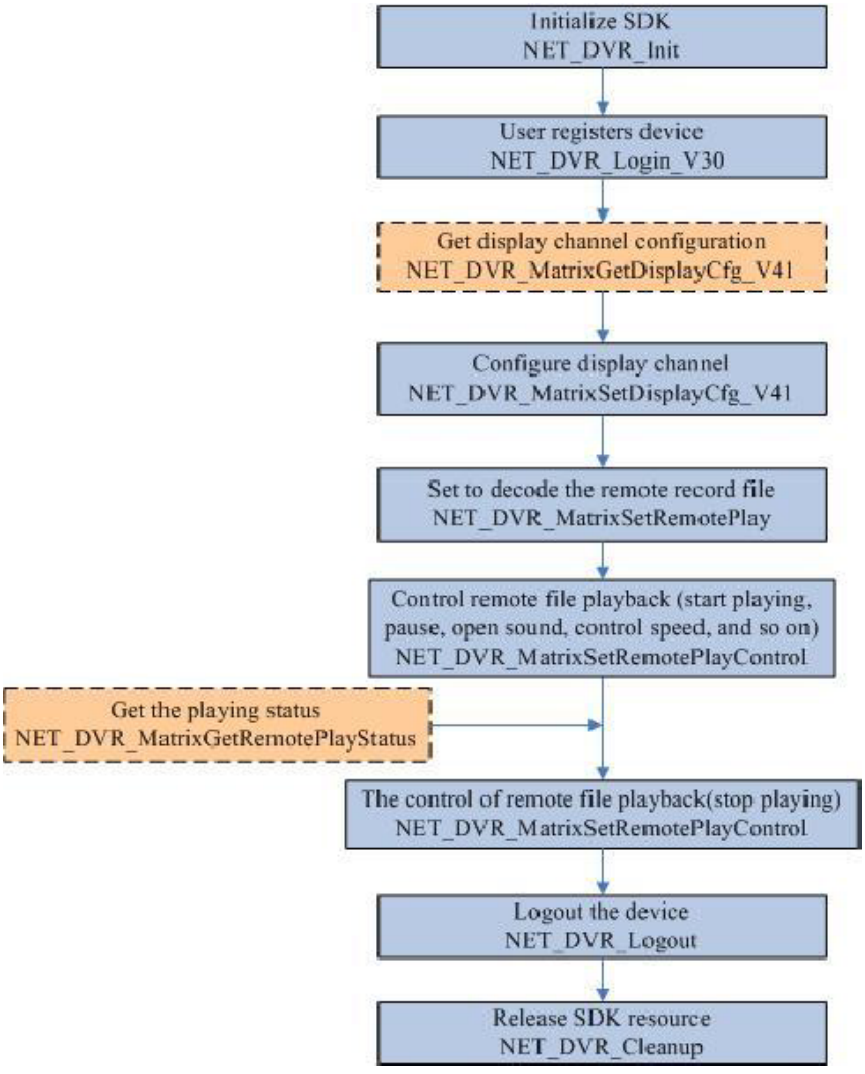

- After login the decoder, it requires to set the display channel firstly. Please set the decoding channel associated with the display channel, otherwise, it is not able to start decoding

normally. The related APIs: NET_DVR_MatrixGetDisplayCfg_V41, NET_DVR_MatrixSetDisplayCfg_V41.

- Call NET_DVR_MatrixStartDynamic_V30 to start dynamic decoding, the decoder will get stream form the encoder device and decode the data.
- It supports to set circle decoding, by calling NET_DVR_MatrixSetLoopDecChanInfo_V30 to set circle group and calling NET_DVR_MatrixSetLoopDecChanEnable to start circle decoding.

***Example Code***

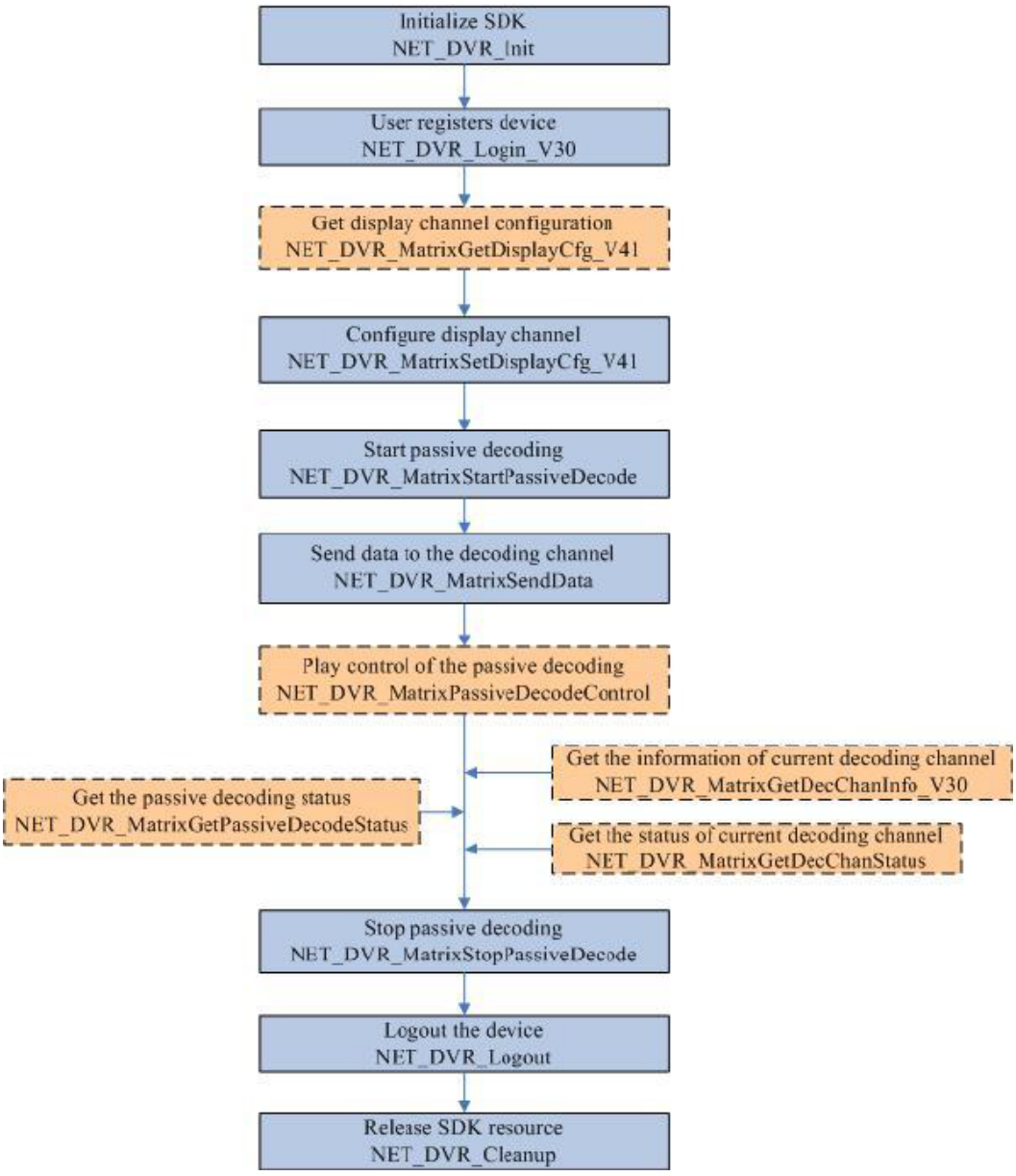
### 2.2.2 Remote File Playback




- After login the decoder, it requires to set the display channel firstly. Please set the decoding channel associated with the display channel, otherwise, it is not able to start decoding normally. The related APIs: NET_DVR_MatrixGetDisplayCfg_V41, NET_DVR_MatrixSetDisplayCfg_V41.
- Set to decode remote record files: firstly, please call NET_DVR_MatrixSetRemotePlay to set playback by time or by file name, and then call NET_DVR_MatrixSetRemotePlayControl to start encoding.

***Example Code***

## 2.3 Passive Decoding Procedure




- After login the decoder, it requires to set the display channel firstly. Please set the decoding channel associated with the display channel, otherwise, it is not able to start decoding normally. The related APIs: NET_DVR_MatrixGetDisplayCfg_V41, NET_DVR_MatrixSetDisplayCfg_V41.
- After calling NET_DVR_MatrixStartPassiveDecode to start passive decoding, please call NET_DVR_MatrixSendData to send data to the decoding channel. The data to be decoded can be get from remote device or read from record file, and the size of data for each sending should be less than 30K bytes.
- Decoding control: pause, fast play, slow play, open or close sound, clear buffer, and so on.

  Related APIs: ~~NET_DVR_MatrixPassiveDecodeControl~~.

***Example Code***

# 3 API Calling Example

## 3.1 Example Code of Dynamic Decoding

### 3.1.1 Decode Real-time Stream

*Related procedure chart*

```
#include <stdio.h>
#include <iostream>
#include "Windows.h"
#include "HCNetSDK.h"
using namespace std;

void main() {

  //---------------------------------------
  //Initialize SDK
  NET_DVR_Init();
  //Set connect time and reconnect time
  NET_DVR_SetConnectTime(2000, 1);
  NET_DVR_SetReconnect(10000, true);

  //---------------------------------------
  // Login the device (Login the decoder)
  NET_DVR_DEVICEINFO_V30 struDeviceInfo;
  memset(&struDeviceInfo, 0, sizeof(NET_DVR_DEVICEINFO_V30)); //The structure to save device information
  LONG lUserID = NET_DVR_Login_V30("172.0.0.100", 8000, "admin", "12345", &struDeviceInfo);

  if (lUserID < 0)
  {
        if (NET_DVR_GetLastError() == NET_DVR_PASSWORD_ERROR)//Password error
        {
              ..... //Handle the error message
        }
        else if(NET_DVR_GetLastError()== NET_DVR_OVER_MAXLINK)
                    //The count of connection to the device over the limit
        {
              ..... // Handle the error message
        }
        ..... // Handle other error message
  }
```

```
//Get display capability of the decoder
  NET_DVR_MATRIX_ABILITY m_matrixability;
  NET_DVR_GetDeviceAbility(lUserID, MATRIXDECODER_ABILITY, NULL, 0, (char*)&m_matrixability,
sizeof(NET_DVR_MATRIX_ABILITY));

  //Configure the display channel
  DWORD  DispChanNum=1;//Display channel, can get it from capability set
  NET_DVR_MATRIX_VOUTCFG  VoutCfg;
  if(!NET_DVR_MatrixGetDisplayCfg_V41(lUserID, DecChanNum, &VoutCfg))
  {
            ..... // Handle the error message
  }
  VoutCfg.dwWindowMode = 4; //Set window to 4 screens
  VoutCfg.byJoinDecChan[0] = 1;
     //The decoding channel associated with the upper left screen is set to channel 1
  ..... //To set other display channels

  if(!NET_DVR_MatrixSetDisplayCfg_V41(lUserID, DecChanNum, &VoutCfg))
  {
            ..... // Handle the error message
  }

  //Active decoding(includes dynamic decoding and circle decoding)
  int DecChanNum = 1;//Decoding channel number
  DWORD dec = 0;

  if(!NET_DVR_MatrixGetDecChanEnable(lUserID, DispChanNum, &dec)) //Get the switch of decoding channels
  {
            ..... // Handle the error message
  }

  dec = 1; //Open the decoding channel: 0- close, 1- open
  if(!NET_DVR_MatrixSetDecChanEnable(lUserID, DecChanNum, dec))
  // Set the switch of decoding channels, if set to close, the channel will stop decoding
  {
            ..... // Handle the error message
  }
  // Dynamic decoding
  NET_DVR_PU_STREAM_CFG  dt;
  dt.struDevChanInfo.struIP.sIpV4 = "172.0.0.101";//IP address of front-end device(encoder device)
  dt.struDevChanInfo.wDVRPort = 8000; //Port number of front-end device
  dt.struDevChanInfo.byChannel = 1;//Channel number
  dt.struStreamMediaSvrCfg.byValid = 0;
  //Whether enable to get stream from stream server: 0- disable, not 0-enable
```

```
…… //Set other parameters of dynamic decoding

if(!NET_DVR_MatrixStartDynamic_V30(lUserID, DecChanNum, &dt))    //Start dynamic decoding
{
        CString tmp;
        tmp.Format("Error: NET_DVR_MatrixStartDynamic = %d\n", NET_DVR_GetLastError());
        //Get error code
        AfxMessageBox(tmp);
}

//Get decoding status
NET_DVR_MATRIX_DEC_CHAN_STATUS m_DecChanStatus;
memset(&m_DecChanStatus, 0, sizeof(NET_DVR_MATRIX_DEC_CHAN_STATUS));
if(!NET_DVR_MatrixGetDecChanStatus(lUserID, DecChanNum, &m_DecChanStatus))
//Get the status of the decoding channel
{
        …… // Handle the error message
}
NET_DVR_MATRIX_DEC_CHAN_INFO_V30   m_DecChanInfo;
memset(&m_DecChanInfo, 0, sizeof(NET_DVR_MATRIX_DEC_CHAN_INFO_V30));
if(!NET_DVR_MatrixGetDecChanInfo_V30(lUserID, DecChanNum, &m_DecChanInfo))
//Get the information of the decoding channel
{
        …… // Handle the error message
}

//Other operation

if(!NET_DVR_MatrixStopDynamic(lUserID, DecChanNum)) //Stop dynamic decoding
{
        CString tmp;
        tmp.Format("Error: NET_DVR_MatrixStartDynamic = %d\n", NET_DVR_GetLastError());
        //Get error code
        AfxMessageBox(tmp);
}

//Loop decoding
NET_DVR_MATRIX_LOOP_DECINFO_V30   m_MatLoopDec;
memset(&m_MatLoopDec, 0, sizeof(NET_DVR_MATRIX_LOOP_DECINFO_V30));
NET_DVR_MatrixGetLoopDecChanInfo_V30(lUserID, DecChanNum, &m_MatLoopDec);
//Get parameters of loop decoding channel

CString m_DVRIP = "172.0.0.101";
sprintf(m_MatLoopDec.struchanConInfo.struDecChanInfo.struIP.sIpV4,"%s", m_DVRIP);
```

```
    //IP address of the device to be decoded
    …… // Set other parameters of loop decoding channel
    NET_DVR_MatrixSetLoopDecChanInfo_V30 (lUserID, DecChanNum, &m_MatLoopDec);
    //Set the parameter of loop decoding channel

    DWORD chanNum = 0;
    NET_DVR_MatrixGetLoopDecChanEnable(lUserID, DecChanNum, &chanNum);
    //Get decoding switch of current channel, if chanNum=0, it is closed; if    chanNum=1, it is open

    chanNum = 1; //Open switch of decoding
    NET_DVR_MatrixSetLoopDecChanEnable(lUserID, DecChanNum, chanNum);
    /*Close the switch of current decoding channel. If the loop switch is closed, the decoding channel stopped the
loop and switch to dynamic decoding*/

    NET_DVR_MatrixGetLoopDecEnable(lUserID, &chanNum);
    //Get the decoding switch of all channels, indicated by byte: 0- closed, 1- open
    // E.g. chanNum&0x01==0 means the channel no.1 is closed

    dec = 0; //Close the decoding channel: 0- close, 1- open
    if(!NET_DVR_MatrixSetDecChanEnable(lUserID, DecChanNum, dec))
    // Set the switch of decoding channels, the channel stops decoding
    {
                ……// Handle the error message
    }

    // Logout
    NET_DVR_Logout(lUserID);
    // Release SDK resource
    NET_DVR_Cleanup();
    return;
}
```

### 3.1.2 Decode Remote File Recorded in the Device

***Related procedure chart***

```
#include <stdio.h>
#include <iostream>
#include "Windows.h"
#include "HCNetSDK.h"
using namespace std;

void main() {

    //---------------------------------------
```

```
//Initialize SDK
NET_DVR_Init();
//Set connect time and reconnect time
NET_DVR_SetConnectTime(2000, 1);
NET_DVR_SetReconnect(10000, true);

//---------------------------------------
// Login the device
NET_DVR_DEVICEINFO_V30 struDeviceInfo;
memset(&struDeviceInfo, 0, sizeof(NET_DVR_DEVICEINFO_V30));//The structure to save device information
LONG lUserID = NET_DVR_Login_V30("172.0.0.100", 8000, "admin", "12345", &struDeviceInfo);

if (lUserID < 0)
{
        if (NET_DVR_GetLastError() == NET_DVR_PASSWORD_ERROR)//Password error
        {
                ..... // Handle the error message
        }
        else if(NET_DVR_GetLastError() == NET_DVR_OVER_MAXLINK)
                        // The count of connection to the device over the limit
        {
                ..... // Handle the error message
        }
        ..... // Handle other error message
}
// Get display capability of the decoder
NET_DVR_MATRIX_ABILITY m_matrixability;
NET_DVR_GetDeviceAbility(lUserID, MATRIXDECODER_ABILITY, NULL, 0, (char*)&m_matrixability,
sizeof(NET_DVR_MATRIX_ABILITY));

// Configure the display channel
DWORD DispChanNum=1;// Display channel, can get it from capability set
NET_DVR_MATRIX_VOUTCFG VoutCfg;
if(!NET_DVR_MatrixGetDisplayCfg_V41(lUserID, DecChanNum, &VoutCfg))
{
        ..... // Handle the error message
}
VoutCfg.dwWindowMode = 1; // Set window to 4 screens
VoutCfg.byJoinDecChan[0] = 1;
//The decoding channel associated with the upper left screen is set to channel 1
..... //To set other display channels

if(!NET_DVR_MatrixSetDisplayCfg_V41(lUserID, DecChanNum, &VoutCfg))
{
```

```
            ..... // Handle the error message
    }

    int DecChanNum = 1; //Decoding channel number

    if(!NET_DVR_MatrixGetDecChanEnable(lUserID, DispChanNum, &dec)) //Get the switch of decoding channels
    {
            ..... // Handle the error message
    }

    dec = 1; //Open the decoding channel: 0- close, 1- open
    if(!NET_DVR_MatrixSetDecChanEnable(lUserID, DecChanNum, dwEnable))
    // Set the switch of decoding channels, if set to close, the channel will stop decoding
    {
            ..... // Handle the error message
    }

    //Playback remote file in the front-end device (encoder device)
    NET_DVR_MATRIX_DEC_REMOTE_PLAY  m_struPlay;
    m_struPlay. sDVRIP = "172.0.0.101"; //IP address of front-end device(encoder device)
    m_struPlay.wDVRPort = m_PlayBackPort; //Port number of front-end device
    m_struPlay.byChannel = (BYTE)m_PlayBackChan; //Channel number of the front-end device to be decoded
    ..... //Set other parameters of playback
    NET_DVR_MatrixSetRemotePlay(lUserID, DecChanNum, &m_struPlay); //Configure the remote playback

    //Start playback
    NET_DVR_MatrixSetRemotePlayControl(lUserID, DecChanNum, NET_DVR_PLAYSTART, 0, NULL);
    //Open sound
    NET_DVR_MatrixSetRemotePlayControl(lUserID, DecChanNum, NET_DVR_PLAYSTARTAUDIO, 0, NULL);
    NET_DVR_MatrixSetRemotePlayControl(lUserID, DecChanNum, ..., 0, NULL);//Other playback control
    NET_DVR_MATRIX_DEC_REMOTE_PLAY_STATUS  m_struState;
    NET_DVR_MatrixGetRemotePlayStatus(lUserID, DecChanNum, &m_struState); //Get playback status

    //Stop decoding
    NET_DVR_MatrixSetRemotePlayControl(lUserID, DecChanNum, NET_DVR_PLAYSTOP, 0, NULL);

    //Logout
    NET_DVR_Logout(lUserID);
    // Release SDK resource
    NET_DVR_Cleanup();
    return;
}
```

## 3.2 Example Code of Passive Decoding

***Related procedure chart***

```
#include <stdio.h>
#include <iostream>
#include "Windows.h"
#include "HCNetSDK.h"
using namespace std;

void main() {
   //---------------------------------------
   //Initialize SDK
   NET_DVR_Init();
   //Set connect time and reconnect time
   NET_DVR_SetConnectTime(2000, 1);
   NET_DVR_SetReconnect(10000, true);

   //---------------------------------------
   // Login the device
   NET_DVR_DEVICEINFO_V30 struDeviceInfo;
   memset(&struDeviceInfo, 0, sizeof(NET_DVR_DEVICEINFO_V30)); //The structure to save device information
   LONG lUserID = NET_DVR_Login_V30("172.0.0.100", 8000, "admin", "12345", &struDeviceInfo);

   if (lUserID < 0)
   {
            if (NET_DVR_GetLastError() == NET_DVR_PASSWORD_ERROR) //Password error
            {
                     …… // Handle the error message
            }
            else if(NET_DVR_GetLastError() == NET_DVR_OVER_MAXLINK)
                        //The count of connection to the device over the limit
            {
                     …… // Handle the error message
            }
            ……// Handle other error message
   }
   //Get display capability of the decoder
   NET_DVR_MATRIX_ABILITY m_matrixability;
   NET_DVR_GetDeviceAbility(lUserID, MATRIXDECODER_ABILITY, NULL, 0, (char*)&m_matrixability,
sizeof(NET_DVR_MATRIX_ABILITY));

   //Configure the display channel
   DWORD DispChanNum=1; //Display channel, can get it from capability set
   NET_DVR_MATRIX_VOUTCFG VoutCfg;
```

```
    if(!NET_DVR_MatrixGetDisplayCfg_V41(lUserID, DecChanNum, &VoutCfg))
    {
                ..... // Handle the error message
    }
    VoutCfg.dwWindowMode = 1; //Set window to 4 screens
    VoutCfg.byJoinDecChan[0] = 1;
        //The decoding channel associated with the upper left screen is set to channel 1
    ......//To set other display channels

    if(!NET_DVR_MatrixSetDisplayCfg_V41(lUserID, DecChanNum, &VoutCfg))
    {
                ..... // Handle the error message
    }
    int DecChanNum = 1;// Decoding channel number
    if(!NET_DVR_MatrixGetDecChanEnable(lUserID, DispChanNum, &dec)) // Get the switch of decoding channels
    {
                ..... // Handle the error message
    }
    dec = 1; // Open the decoding channel: 0- close, 1- open
    if(!NET_DVR_MatrixSetDecChanEnable(lUserID, DecChanNum, dwEnable))
    // Set the switch of decoding channels, if set to close, the channel will stop decoding
    {
                ..... // Handle the error message
    }
    //Passive decoding
    DWORD m_PassivePort = 8000;
    LONG lPassiveModeHandle = -1; //The handle of passive decoding
    NET_DVR_MATRIX_PASSIVEMODE m_PassiveMode;
    m_PassiveMode.wPassivePort = m_PassivePort;
                                //The port number of UDP, when the transmission mode is TCP, it is defaulted to 8000.
    ..... //Other parameters of passive decoding
    lPassiveModeHandle = NET_DVR_MatrixStartPassiveDecode(lUserID, DecChanNum, &m_PassiveMode);
    //Start passive decoding
    NET_DVR_MatrixSendData(lPassiveModeHandle, pSendBuf, dwBufSize);
    //Send data to the decoder, pSendBuf is the buffer that saves the data, and dwBufSize is the size of the data

    NET_DVR_MatrixStopPassiveDecode(lPassiveModeHandle); //Stop passive decoding
    //Logout
    NET_DVR_Logout(lUserID);
    // Release SDK resource
    NET_DVR_Cleanup();
    return;
}
```

# 4 API Description

## 4.1 SDK Initialization

### 4.1.1 Initialize SDK: NET_DVR_Init

**API:** BOOL NET_DVR_Init()
**Parameters:** None
**Return:** Return TRUE on success, FALSE on failure.
**Remarks:** This API is used to initialize SDK. Please call this API before calling any other API.

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### 4.1.2 Release SDK resource: NET_DVR_Cleanup

**API:** BOOL NET_DVR_Cleanup()
**Parameters:** None
**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.
**Remarks:** This API is used to release SDK resource. Please calling it before closing the program.

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## 4.2 Get Error Message

### 4.2.1 Get the error code of last operation: NET_DVR_GetLastError

**API:** DWORD NET_DVR_GetLastError()
**Parameters:**
**Return:** The error code of last operation.
**Remarks:** Return the error code. Generally, there are 3 different types of error information: error of network communication library, error of RTSP library, and error of software/hardware decoding library, see detail to **macro definition of error code**.

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### 4.2.2 Get the error message of last operation: NET_DVR_GetErrorMsg

**API:** char* NET_DVR_GetErrorMsg(LONG *pErrorNo)

**Parameters:** [out] pErrorNo The pointer of the error code number

**Return:** The pointer that saves the error message. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** Generally, there are 3 different types of error information: error of network communication library, error of RTSP library, and error of software/hardware decoding library, see detail to **macro definition of error code**.

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## 4.3 Login the Device

### 4.3.1 Loin the device: NET_DVR_Login_V30

**API:** LONG NET_DVR_Login_V30(char *sDVRIP, WORD wDVRPort, char *sUserName, char *sPassword,LPNET_DVR_DEVICEINFO_V30 lpDeviceInfo)

**Parameters:** [in] Sdvrip IP address of the device

[in] wDVRPort Port number of the devic

[in] sUserName User name

[in] sPassword Password

[out] lpDeviceInfo Device information

**Return:** Return -1 if it is failed, and other value is the value of returned user ID. The user ID is unique, and next operations should be realized through this ID. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** Decoder supports 32 different user names and 128 users login at the same time. SDK supports 512 * login. UserID is incremented one by one, from 0 to 511 and then return to 0. Logout and NET_DVR_Cleanup will not initialize the UserID to 0.

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### 4.3.2 Logout: NET_DVR_Logout

**API:** BOOL NET_DVR_Logout(LONG lUserID)

**Parameters:** [in] lUserID User ID, the return value of NET_DVR_Login_V30

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** It is suggested to call this API to logout.

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## 4.4 Get the capability set of the device

### 4.4.1 Get the capability set: NET_DVR_GetDeviceAbility

**API:** BOOL NET_DVR_GetDeviceAbility(LONG lUserID, DWORD dwAbilityType, char* pInBuf, DWORD dwInLength, char* pOutBuf, DWORD dwOutLength)

**Parameters:**

| | |
|---|---|
| [in] lUserID | The return value of NET_DVR_Login_V30 |
| [in] dwAbilityType | Capability type, details listed below |
| [in] pInBuf | Pointer of the input buffer (according to description mode of ability parameter, defined by device, it supports XML text or structure format) |
| [in] dwInLength | Length of input buffer |
| [out] pOutBuf | Pointer of the output buffer (according to description mode of ability set, defined by device, it supports XML text or structure format) |
| [in] dwOutLength | Length of output buffer |

| dwAbilityType Macro Definition | Value | Implication |
|---|---|---|
| MATRIXDECODER_ABILITY | 0x200 | Display and decoding capability of multi-channel decoder |
| MATRIXDECODER_ABILITY_V41 | 0x260 | Decoder capability set (extended) |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** The definitions of pInBuf are different according to different devices, and the input and output parameter format when getting different types of capabilities are defined as below:

| Macro Definition | Type of Ability | pInBuf | pOutBuf |
|---|---|---|---|
| MATRIXDECODER_ABILITY | Get display and decoding capability of multi-channel decoder | None | NET_DVR_MATRIX_ABILITY |
| MATRIXDECODER_ABILITY_V41 | Get decoder capability set (extended) | None | NET_DVR_MATRIX_ABILITY_V41 |

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## 4.5 Configuration and Control of the Display Channel

### 4.5.1 Get the information of display channel:

**NET_DVR_MatrixGetDisplayCfg_V41**

**API:** BOOL NET_DVR_MatrixGetDisplayCfg_V41 (LONG lUserID, LONG dwDispChanNum, LPNET_DVR_MATRIX_VOUTCFG lpVoutCfg)

**Parameters:**

| | |
|---|---|
| [in]lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDispChanNum | Display channel, please get it from capability set |
| [out] lpVoutCfg | Display channel information, please kindly refer to the structure: NET_DVR_MATRIX_VOUTCFG |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.5.2 Configure the display channel:

**NET_DVR_MatrixSetDisplayCfg_V41**

**API:** BOOL NET_DVR_MatrixSetDisplayCfg_V41(LONG lUserID, LONG dwDispChanNum, LPNET_DVR_MATRIX_VOUTCFG lpVoutCfg)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDispChanNum | Display channel, please get it from capability set |
| [in] lpVoutCfg | Display channel configuration, please kindly refer to the structure: NET_DVR_MATRIX_VOUTCFG |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.5.3 Control the display channel: NET_DVR_MatrixDiaplayControl

**API:** BOOL NET_DVR_MatrixDiaplayControl(LONG lUserID, DWORD dwDispChanNum, DWORD dwDispChanCmd, DWORD dwCmdParam)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDispChanNum | Display channel, please get it from capability set |
| [in] dwDispChanCmd | Display channel control command, see to the following list |

[in] dwCmdParam Command parameter, please set to 0

| dwDispChanNum Macro Definition | Value | Implication |
|---|---|---|
| DISP_CMD_ENLARGE_WINDOW | 1 | Enlarge one window of the display channel |
| DISP_CMD_RENEW_WINDOW | 2 | Resume the window of the display channel |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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# 4.6 Parameter Configuration

## 4.6.1 Get configuration of the device: NET_DVR_GetDVRConfig

**API:** BOOL NET_DVR_GetDVRConfig(LONG lUserID, DWORD dwCommand,LONG lChannel, LPVOID lpOutBuffer, DWORD dwOutBufferSize, LPDWORD lpBytesReturned)

**Parameters:**

[in] lUserID User ID, the return value of NET_DVR_Login_V30

[in] dwCommand Configuration command, please kindly refer to the following list

[in] lChannel Channel number, if the channel parameter is not required, lChannel is invalid, and set it as 0xFFFFFFFF

[out] lpOutBuffer The buffer to save the received data

[in] dwOutBufferSize The size of the buffer (unit: byte), it can't be 0

[out] lpBytesReturned The size of the returned buffer, it can't be NULL

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** The structures and command numbers are different according to the various getting functions, and they are listed as below:

| Macro Definition of dwCommand | Description | lChannel | lpOutBuffer | Value |
|---|---|---|---|---|
| NET_DVR_GET_NETCFG_OTHER | Get network configuration of multi-channel decoder | invalid | NET_DVR_NETCFG_OTHER | 244 |
| NET_DVR_MATRIX_BIGSCREENCFG_GET | Get screen stitching parameter(supported by 64-T HD decoder) | valid | NET_DVR_BIGSCREENCFG | 1140 |

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### 4.6.2 Set the parameters of the device: NET_DVR_SetDVRConfig

**API:** BOOL NET_DVR_SetDVRConfig(LONG lUserID, DWORD dwCommand,LONG lChannel, LPVOID lpInBuffer, DWORD dwInBufferSize)

**Parameters:**

| | | |
|---|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwCommand | Parameter type. Please kindly refer to the following list |
| [in] lChannel | Channel number, if it is not the channel parameter, do not use lChannel, and set it as 0xFFFFFFFF |
| [in] lpInBuffer | Buffer that saves the output parameters |
| [in] dwInBufferSize | The buffer size (unit: byte) |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** The structures and command numbers are different according to the various setting functions, and they are listed as below:

| Macro Definition of dwCommand | Description | lChannel | lpInBuffer | Value |
|---|---|---|---|---|
| NET_DVR_SET_NETCFG_OTHER | Se network parameter channel decoder | invalid | NET_DVR_NETCFG_OTHER | 245 |
| NET_DVR_MATRIX_BIGSCREENCFG_SET | Set screen stitching parameter(supported by 64-T HD decoder) | valid | NET_DVR_BIGSCREENCFG | 1141 |

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## 4.7 Function about Decoding Channel

### 4.7.1 Get the configuration of decoding channel:

### NET_DVR_MatrixGetDecChanCfg

**API:** BOOL NET_DVR_MatrixGetDecChanCfg(LONG lUserID, DWORD dwDecChan, LPNET_DVR_MATRIX_DECCHAN_CONTROL lpInter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChan | Decoding channel number |
| [out] lpInter | Decode channel zoom control, please kindly refer to the structure: NET_DVR_MATRIX_DECCHAN_CONTROL |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.7.2 Configure the decoding channel: NET_DVR_MatrixSetDecChanCfg

**API:** BOOL NET_DVR_MatrixSetDecChanCfg(LONG lUserID, DWORD dwDecChan, LPNET_DVR_MATRIX_DECCHAN_CONTROL lpInter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChan | Decoding channel number |
| [in] lpInter | Decode channel zoom control, please kindly refer to the structure: NET_DVR_MATRIX_DECCHAN_CONTROL |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.7.3 Get the video format of the decoding channel:

### NET_DVR_MatrixGetVideoStandard

**API:** BOOL NET_DVR_MatrixGetVideoStandard(LONG lUserID,LONG dwDecChanNum, LPDWORD lpdwVideoStandard)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [out] lpdwVideoStandard | Decode video format: 0- PAL, 1- NTSC |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.7.4 Set the video format of the decoding channel:

### NET_DVR_MatrixSetVideoStandard

**API:** BOOL NET_DVR_MatrixSetVideoStandard(LONG lUserID,DWORD dwDecChanNum, DWORD dwVideoStandard)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [in] dwVideoStandard | Decode video format: 0- PAL, 1- NTSC |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.7.5 Get the status of current decoding channel:

**NET_DVR_MatrixGetDecChanStatus**

**API:** BOOL NET_DVR_MatrixGetDecChanStatus(LONG lUserID, DWORD dwDecChanNum, LPNET_DVR_MATRIX_DEC_CHAN_STATUS lpInter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [out] lpInter | Status of the decoding channel, please kindly refer to the structure: NET_DVR_MATRIX_DEC_CHAN_STATUS |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** It is used to get the status of the decoding channel, including decoding status, stream transmission rate

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### 4.7.6 Get the switch of the decoding channel:

**NET_DVR_MatrixGetDecChanEnable**

**API:** BOOL NET_DVR_MatrixGetDecChanEnable(LONG lUserID, DWORD dwDecChanNum, LPDWORD lpdwEnable)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [out] lpdwEnable | 0- close, 1- open |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** The switch of decoding channel, is used to control the decoding process of the decoding channel. When set the switch to close, whether current decoding channel is during dynamic decoding or loop decoding, it will stop decoding. The display window will turn to black screen after it is effected. If set the switch on, it will resume the last process.

**Notes:** This function can be used with the switch of loop decoding to control loop decoding.

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### 4.7.7 Set the switch of the decoding channel:

**NET_DVR_MatrixSetDecChanEnable**

**API:** BOOL NET_DVR_MatrixSetDecChanEnable (LONG lUserID, DWORD

dwDecChanNum, DWORD dwEnable)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [in] dwEnable | 0- close, 1- open |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** The switch of decoding channel, is used to control the decoding process of the decoding channel. When set the switch to close, whether current decoding channel is during dynamic decoding or loop decoding, it will stop decoding. The display window will turn to black screen after it is effected. If set the switch on, it will resume the last process.

**Notes:** This function can be used with the switch of loop decoding to control loop decoding.

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## 4.8 Active Decoding

### 4.8.1 Start dynamic decoding: NET_DVR_MatrixStartDynamic_V30

**API:** BOOL NET_DVR_MatrixStartDynamic_V30( LONG lUserID, DWORD dwDecChanNum, LPNET_DVR_PU_STREAM_CFG lpDynamicInfo)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [in] lpDynamicInfo | Dynamic decoding parameter, please kindly refer to the structure: NET_DVR_PU_STREAM_CFG |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** It is used to connect one decoding channel of the multi-channel decoder to one channel of front-end device, and continue to decode until call the stop API or set decoding switch off. If decoding interruption is caused by network interrupted during the decoding process, the multi-channel decoder will automatically re-connect to the front device, till the connection is successful or the stop API is called. During re-connecting, the decoding channel is in the black state.

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### 4.8.2 Stop dynamic decoding: NET_DVR_MatrixStopDynamic

**API:** BOOL NET_DVR_MatrixStopDynamic(LONG lUserID, DWORD dwDecChanNum)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.8.3 Get the information of circle decoding channel:

**NET_DVR_MatrixGetLoopDecChanInfo_V30**

**API:** BOOL NET_DVR_MatrixGetLoopDecChanInfo_V30(LONG lUserID, DWORD dwDecChanNum, LPNET_DVR_MATRIX_LOOP_DECINFO_V30 lpInter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in]dwDecChanNum | Decoding channel number |
| [out] lpInter | The info of circle decoding channel, please kindly refer to the structure: NET_DVR_MATRIX_LOOP_DECINFO_V30 |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** It is used to set circle decoding parameter of one decode channel in multi-channel decoder, and every decoding channel can connect to 16 front-end channels for circle decoding. The cycle period supports to be set. After set successfully, if the starting flag of connection information is enabled, the channel go into circle status and start circle decoding; If disabled, then not start loop decoding. We can use with the switch API of circle decoding to achieve the circle decoding control, details refer to the part of the circle decoding switch (NET_DVR_MatrixGetLoopDecChanEnable and NET_DVR_MatrixSetLoopDecChanEnable).

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### 4.8.4 Set the circle decoding channel:

**NET_DVR_MatrixSetLoopDecChanInfo_V30**

**API:** BOOL NET_DVR_MatrixSetLoopDecChanInfo_V30(LONG lUserID, DWORD dwDecChanNum, LPNET_DVR_MATRIX_LOOP_DECINFO_V30 lpInter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [in] lpInter | The configuration of the circle decoding channel, please kindly refer to the structure: NET_DVR_MATRIX_LOOP_DECINFO_V30 |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** It is used to set circle decoding parameter of one decode channel in

multi-channel decoder, and every decoding channel can connect to 16 front-end channels for circle decoding. The cycle period supports to be set. After set successfully, if the starting flag of connection information is enabled, the channel go into circle status and start circle decoding; If disabled, then not start loop decoding. We can use with the switch API of circle decoding to achieve the circle decoding control, details refer to the part of the circle decoding switch (NET_DVR_MatrixGetLoopDecChanEnable and NET_DVR_MatrixSetLoopDecChanEnable).

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### 4.8.5 Get the circle switch of the decoding channel:

**NET_DVR_MatrixGetLoopDecChanEnable**

**API:** BOOL NET_DVR_MatrixGetLoopDecChanEnable(LONG lUserID, DWORD dwDecChanNum, LPDWORD lpdwEnable)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [out] lpdwEnable | 0- close, 1- open |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** The circle switch is used to control the starting and stopping of circle decoing, not to control the starting and stopping of decoding. When set the circle switch off, the decoding channel will stop the circle decoding and continue to decode the stream of the currently connected channel, that is, turn to dynamic decoding. When set the switch on, it will resume to circle decoding.

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### 4.8.6 Set the circle switch of the decoding channel:

**NET_DVR_MatrixSetLoopDecChanEnable**

**API:** BOOL NET_DVR_MatrixSetLoopDecChanEnable(LONG lUserID, DWORD dwDecChanNum, DWORD dwEnable)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [in] dwEnable | 0- close, 1- open |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** The circle switch is used to control the starting and stopping of circle decoing, not to control the starting and stopping of decoding. When set the circle switch off, the decoding channel will stop the circle decoding and continue to decode the stream of the currently connected channel, that is, turn to

dynamic decoding. When set the switch on, it will resume to circle decoding.

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### 4.8.7 Set the circle switch of all decoding channels:

**NET_DVR_MatrixGetLoopDecEnable**

**API:** BOOL NET_DVR_MatrixGetLoopDecEnable(LONG lUserID, LPDWORD lpdwEnable)

**Parameters:**

| | | |
|---|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [out] lpdwEnable | indicated by bit: 0- close, 1- open |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** lpdwEnable is indicated by bit, for example, if lpdwEnable&0x1=1 and lpdwEnable&0x4=1, other bits are 0, it means the circle switch of no.1 and no.3 decoding channel are turned on, and that of the other channels are off.

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### 4.8.8 Get the information of current decoding channel:

**NET_DVR_MatrixGetDecChanInfo_V30**

**API:** BOOL NET_DVR_MatrixGetDecChanInfo_V30(LONG lUserID, DWORD dwDecChanNum, LPNET_DVR_MATRIX_DEC_CHAN_INFO_V30 lpInter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [out] lpInter | Decoding channel information, please kindly refer to the structure: NET_DVR_MATRIX_DEC_CHAN_INFO_V30 |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** It is used to get the information of current decoding channel, including the information of front-end device, stream mode, and so on.

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### 4.8.9 Configure the playback of remote files:

**NET_DVR_MatrixSetRemotePlay**

**API:** BOOL NET_DVR_MatrixSetRemotePlay(LONG lUserID, DWORD dwDecChanNum, LPNET_DVR_MATRIX_DEC_REMOTE_PLAY lpInter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |

| | | |
|---|---|---|
| | [in] dwDecChanNum | Decoding channel number |
| | [in] lpInter | Playback parameters, please kindly refer to the structure: NET_DVR_MATRIX_DEC_REMOTE_PLAY |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** After calling this API to configure the parameters, please call NET_DVR_MatrixSetRemotePlayControl (NET_DVR_PLAYSTART) to start play.

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## 4.8.10 Control the playback of remote files:

### NET_DVR_MatrixSetRemotePlayControl

**API:** BOOL NET_DVR_MatrixSetRemotePlayControl(LONG lUserID, DWORD dwDecChanNum, DWORD dwControlCode, DWORD dwInValue, DWORD *lpOutValue)

**Parameters:**

| | | |
|---|---|---|
| | [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| | [in] dwDecChanNum | Decoding channel number |
| | [in] dwControlCode | Control commands, see to the following list |
| | [in] dwInValue | The input value, related to the command |
| | [in] lpOutValue | The output parameter, related to the command |

| dwControlCode Macro Definition | Value | Implication |
|---|---|---|
| NET_DVR_PLAYSTART | 1 | Start playing |
| NET_DVR_PLAYSTOP | 2 | Stop playing |
| NET_DVR_PLAYPAUSE | 3 | Pause |
| NET_DVR_PLAYRESTART | 4 | Resume |
| NET_DVR_PLAYFAST | 5 | Fast |
| NET_DVR_PLAYSLOW | 6 | Slow |
| NET_DVR_PLAYNORMAL | 7 | Normal speed |
| NET_DVR_PLAYSTARTAUDIO | 9 | Open sound |
| NET_DVR_PLAYSTOPAUDIO | 10 | Close sound |
| NET_DVR_PLAYSETPOS | 12 | Change progress of playback by file |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** dwInValue and lpOutValue are related to the control command. For some commands, such as NET_DVR_PLAYSTART, it does not require to set both the two parameters; For some commands, such as NET_DVR_PLAYSETPOS, it requires to set the value of dwInValue. The playback by time does not support the control command **NET_DVR_PLAYSETPOS**

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### 4.8.11 Get the status of playback:

**NET_DVR_MatrixGetRemotePlayStatus**

**API:** BOOL NET_DVR_MatrixGetRemotePlayStatus(LONG lUserID, DWORD dwDecChanNum,LPNET_DVR_MATRIX_DEC_REMOTE_PLAY_STATUS lpOuter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [out] lpOuter | Playback status, please kindly refer to the structure: NET_DVR_MATRIX_DEC_REMOTE_PLAY_STATUS |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** The decoder connects to the front-end device and playback the files by file name or by time. This API is used to get the status of the playback. There is certain delay for the command is transferred by the client, so we cannot call NET_DVR_MatrixSetRemotePlayControl frequently. If we get the status of playback and handle the playback according to the status, we should consider the network delay.

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## 4.9 Passive Decoding

### 4.9.1 Start passive decoding: NET_DVR_MatrixStartPassiveDecode

**API:** LONG NET_DVR_MatrixStartPassiveDecode(LONG lUserID, DWORD dwDecChanNum, LPNET_DVR_MATRIX_PASSIVEMODE lpPassiveMode)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [in] lpPassiveMode | Passive decoding parameter, please kindly refer to the structure: NET_DVR_MATRIX_PASSIVEMODE |

**Return:** -1 means false, and other values could be used as the parameters of other interfaces, such as NET_DVR_MatrixSendData. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.9.2 Send data to the passive decoding channel:

**NET_DVR_MatrixSendData**

**API:** BOOL NET_DVR_MatrixSendData(LONG lPassiveHandle, char *pSendBuf, DWORD dwBufSize)

**Parameters:**

| | | |
|---|---|---|
| [in] | lPassiveHandle | The return value of NET_DVR_MatrixStartPassiveDecode |
| [in] | pSendBuf | The buffer that saves the data to be sent |
| [in] | dwBufSize | Size of the buffer, should be less than 30K bytes |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.9.3 Stop the passive decoding: NET_DVR_MatrixStopPassiveDecode

**API:** BOOL NET_DVR_MatrixStopPassiveDecode(LONG lPassiveHandle)

**Parameters:**

| | | |
|---|---|---|
| [in] | lPassiveHandle | The return value of NET_DVR_MatrixStartPassiveDecode |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.9.4 Get status of the passive decoding:

**NET_DVR_MatrixGetPassiveDecodeStatus**

**API:** LONG NET_DVR_MatrixGetPassiveDecodeStatus(LONG lPassiveHandle)

**Parameters:**

| | | |
|---|---|---|
| [in] | lPassiveHandle | The return value of NET_DVR_MatrixStartPassiveDecode |

**Return:** -1- failed, 1- send the data successfully, 2- sending is suspended, 3- sending is resumed, 4- error, 5- heartbeat messages. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.9.5 Control of the passive decoding:

**NET_DVR_MatrixPassiveDecodeControl**

**API:** BOOL NET_DVR_MatrixPassiveDecodeControl( LONG lUserID, DWORD dwDecChanNum, LPNET_DVR_PASSIVEDECODE_CONTROL lpInter)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | Decoding channel number |
| [in] lpInter | The control parameters, please kindly refer to the structure: NET_DVR_PASSIVEDECODE_CONTROL |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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## 4.10 Upload the LOGO and Control Its Display

### 4.10.1 Upload the LOGO: NET_DVR_UploadLogo

**API:** BOOL NET_DVR_UploadLogo(LONG lUserID,DWORD dwDecChanNum, LPNET_DVR_DISP_LOGOCFG lpDispLogoCfg, char *sLogoBuffer)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChanNum | The number of decoding channel |
| [in] lpDispLogoCfg | The LOGO parameters, please kindly refer to the structure: NET_DVR_DISP_LOGOCFG |
| [in] sLogoBuffer | LOGO data buffer, at most 100k, width and height must be multiples of 32 |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

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### 4.10.2 Display control of the LOGO: NET_DVR_LogoSwitch

**API:** BOOL NET_DVR_LogoSwitch(LONG lUserID, DWORD dwDecChan, DWORD dwLogoSwitch)

**Parameters:**

| | |
|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [in] dwDecChan | The number of decoding channel |
| [in] dwLogoSwitch | Switch command, please kindly see to the following list |

| Macro Definition | Value | Implication |
|---|---|---|
| NET_DVR_SHOWLOGO | 1 | Display LOGO |
| NET_DVR_HIDELOGO | 2 | Hide LOGO |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

*Return to index*

## 4.11 Transparent Channel

### 4.11.1 Get the information of transparent channel:

**NET_DVR_MatrixGetTranInfo_V30**

**API:** BOOL NET_DVR_MatrixGetTranInfo_V30(LONG lUserID, LPNET_DVR_MATRIX_TRAN_CHAN_CONFIG_V30 lpTranInfo)

**Parameters:**

| | | |
|---|---|---|
| [in] lUserID | | User ID, the return value of NET_DVR_Login_V30 |
| [out] lpTranInfo | | The parameter of transparent channel, please kindly refer to the structure: NET_DVR_MATRIX_TRAN_CHAN_CONFIG_V30 |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** Here transparent channel configuration is to build network transparent channel between the decoder and the front-end device, not between client and the decoder. Because most multi-channel decoders don't support building 232/485 transparent channel between with the PC client, local serial port can only be the access port of the serial console (via RS 232) or device like control keyboard (via RS232/RS485).

*Return to index*

### 4.11.2 Set the transparent channel: NET_DVR_MatrixSetTranInfo_V30

**API:** BOOL NET_DVR_MatrixSetTranInfo_V30(LONG lUserID, LPNET_DVR_MATRIX_TRAN_CHAN_CONFIG_V30 lpTranInfo)

**Parameters:**

| | | |
|---|---|---|
| [in] lUserID | | User ID, the return value of NET_DVR_Login_V30 |
| [in] lpTranInfo | | The parameter of transparent channel, please kindly refer to the structure: NET_DVR_MATRIX_TRAN_CHAN_CONFIG_V30 |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:** Currently, one multi-channel decoder supports 64 transparent channels at

most, including 232 and 485 transparent channels. It supports only one 232 full-duplex transparent channel and one 485 full-duplex transparent channel, and it supports not to set full-duple transparent channel.

*Return to index*

## 4.12 Device Status

### 4.12.1 Get the status of the device:

**NET_DVR_MatrixGetDeviceStatus_V41**

**API:** BOOL NET_DVR_MatrixGetDeviceStatus_V41(LONG lUserID, LPNET_DVR_DECODER_WORK_STATUS_V41 lpDecoderCfg)

**Parameters:**

| | | |
|---|---|---|
| [in] lUserID | User ID, the return value of NET_DVR_Login_V30 |
| [out] lpDecoderCfg | The status of the decoder, please kindly refer to the structure: NET_DVR_DECODER_WORK_STATUS_V41 |

**Return:** Return TRUE on success, FALSE on failure. Please call NET_DVR_GetLastError to get the error code.

**Remarks:**

*Return to index*

# 5 Macro Definition of Error Code

## 5.1 Error code of network communication library

| Error | Value | Message |
|---|---|---|
| NET_DVR_NOERROR | 0 | No error. |
| NET_DVR_PASSWORD_ERROR | 1 | User name or password error. |
| NET_DVR_NOENOUGHPRI | 2 | Not authorized to do this operation. |
| NET_DVR_NOINIT | 3 | SDK is not initialized. |
| NET_DVR_CHANNEL_ERROR | 4 | Channel number error. There is no corresponding channel number on the device. |
| NET_DVR_OVER_MAXLINK | 5 | The number of clients connected to the device has exceeded the max limit. |
| NET_DVR_VERSIONNOMATCH | 6 | Version mismatch. SDK version is not matching with the device. |
| NET_DVR_NETWORK_FAIL_CONNECT | 7 | Failed to connect to the device. The device is off-line, or connection timeout caused by network. |
| NET_DVR_NETWORK_SEND_ERROR | 8 | Failed to send data to the device. |
| NET_DVR_NETWORK_RECV_ERROR | 9 | Failed to receive data from the device. |
| NET_DVR_NETWORK_RECV_TIMEOUT | 10 | Timeout when receiving the data from the device. |
| NET_DVR_NETWORK_ERRORDATA | 11 | The data sent to the device is illegal, or the data received from the device error. E.g. The input data is not supported by the device for remote configuration. |
| NET_DVR_ORDER_ERROR | 12 | API calling order error. |
| NET_DVR_OPERNOPERMIT | 13 | Not authorized for this operation. |
| NET_DVR_COMMANDTIMEOUT | 14 | Executing command on the device is timeout. |
| NET_DVR_ERRORSERIALPORT | 15 | Serial port number error. The assigned serial port does not exist on the device. |
| NET_DVR_ERRORALARMPORT | 16 | Alarm port number error. |
| NET_DVR_PARAMETER_ERROR | 17 | Parameter error. Input or output parameter in the SDK API is NULL. |
| NET_DVR_CHAN_EXCEPTION | 18 | Device channel is in exception status. |
| NET_DVR_NODISK | 19 | No hard disk on the device, and the operation of recording and hard disk configuration will fail. |
| NET_DVR_ERRORDISKNUM | 20 | Hard disk number error. The assigned hard disk number does not exist during hard disk management. |
| NET_DVR_DISK_FULL | 21 | Device hark disk is full. |
| NET_DVR_DISK_ERROR | 22 | Device hard disk error. |
| NET_DVR_NOSUPPORT | 23 | Device does not support this function. |
| NET_DVR_BUSY | 24 | Device is busy. |
| NET_DVR_MODIFY_FAIL | 25 | Failed to modify device parameters. |

| | | |
|---|---|---|
| **NET_DVR_PASSWORD_FORMAT_ERROR** | 26 | The inputting password format is not correct. |
| **NET_DVR_DISK_FORMATING** | 27 | Hard disk is formatting, and the operation cannot be done. |
| **NET_DVR_DVRNORESOURCE** | 28 | Not enough resource on the device. |
| **NET_DVR_DVROPRATEFAILED** | 29 | Device operation failed. |
| **NET_DVR_OPENHOSTSOUND_FAIL** | 30 | Failed to collect local audio data or to open audio output during voice talk / broadcasting. |
| **NET_DVR_DVRVOICEOPENED** | 31 | Voice talk channel on the device has been occupied. |
| **NET_DVR_TIMEINPUTERROR** | 32 | Time input is not correct. |
| **NET_DVR_NOSPECFILE** | 33 | There is no selected file for playback. |
| **NET_DVR_CREATEFILE_ERROR** | 34 | Failed to create a file, during local recording, saving picture, getting configuration file or downloading record file. |
| **NET_DVR_FILEOPENFAIL** | 35 | Failed to open a file, when importing configuration file, upgrading device or uploading inquest file. |
| **NET_DVR_OPERNOTFINISH** | 36 | The last operation has not been completed. |
| **NET_DVR_GETPLAYTIMEFAIL** | 37 | Failed to get the current played time. |
| **NET_DVR_PLAYFAIL** | 38 | Failed to start playback. |
| **NET_DVR_FILEFORMAT_ERROR** | 39 | The file format is not correct. |
| **NET_DVR_DIR_ERROR** | 40 | File directory error. |
| **NET_DVR_ALLOC_RESOURCE_ERROR** | 41 | Resource allocation error. |
| **NET_DVR_AUDIO_MODE_ERROR** | 42 | Sound adapter mode error. Currently opened sound playing mode does not match with the set mode. |
| **NET_DVR_NOENOUGH_BUF** | 43 | Buffer is not enough. |
| **NET_DVR_CREATESOCKET_ERROR** | 44 | Create SOCKET error. |
| **NET_DVR_SETSOCKET_ERROR** | 45 | Set SOCKET error. |
| **NET_DVR_MAX_NUM** | 46 | The number of login or preview connections has exceeded the SDK limitation. |
| **NET_DVR_USERNOTEXIST** | 47 | User doest not exist. The user ID has been logged out or unavailable. |
| **NET_DVR_WRITEFLASHERROR** | 48 | Writing FLASH error. Failed to write FLASH during device upgrade. |
| **NET_DVR_UPGRADEFAIL** | 49 | Failed to upgrade device. It is caused by network problem or the language mismatch between the device and the upgrade file. |
| **NET_DVR_CARDHAVEINIT** | 50 | The decode card has already been initialed. |
| **NET_DVR_PLAYERFAILED** | 51 | Failed to call API of player SDK. |
| **NET_DVR_MAX_USERNUM** | 52 | The number of login user has reached the maximum limit. |
| **NET_DVR_GETLOCALIPANDMACFAIL** | 53 | Failed to get the IP address or physical address of local PC. |
| **NET_DVR_NOENCODEING** | 54 | This channel hasn't started encoding. |
| **NET_DVR_IPMISMATCH** | 55 | IP address not match. |
| **NET_DVR_MACMISMATCH** | 56 | MAC address not match. |
| **NET_DVR_UPGRADELANGMISMATCH** | 57 | The language of upgrading file does not match the language of the device. |

| | | |
|---|---|---|
| **NET_DVR_MAX_PLAYERPORT** | 58 | The number of player ports has reached the maximum limit. |
| **NET_DVR_NOSPACEBACKUP** | 59 | No enough space to backup file in backup device. |
| **NET_DVR_NODEVICEBACKUP** | 60 | No backup device. |
| **NET_DVR_PICTURE_BITS_ERROR** | 61 | The color quality setting of the picture does not match the requirement, and it should be limited to 24. |
| **NET_DVR_PICTURE_DIMENSION_ERROR** | 62 | The dimension is over 128x256. |
| **NET_DVR_PICTURE_SIZ_ERROR** | 63 | The size of picture is over 100K. |
| **NET_DVR_LOADPLAYERSDKFAILED** | 64 | Failed to load the player SDK. |
| **NET_DVR_LOADPLAYERSDKPROC_ERROR** | 65 | Can not find the function in player SDK. |
| **NET_DVR_LOADDSSDKFAILED** | 66 | Failed to load the library file-"DsSdk". |
| **NET_DVR_LOADDSSDKPROC_ERROR** | 67 | Can not find the API in "DsSdk". |
| **NET_DVR_DSSDK_ERROR** | 68 | Failed to call the API in "DsSdk". |
| **NET_DVR_VOICEMONOPOLIZE** | 69 | Sound adapter has been monopolized. |
| **NET_DVR_JOINMULTICASTFAILED** | 70 | Failed to join to multicast group. |
| **NET_DVR_CREATEDIR_ERROR** | 71 | Failed to create log file directory. |
| **NET_DVR_BINDSOCKET_ERROR** | 72 | Failed to bind socket. |
| **NET_DVR_SOCKETCLOSE_ERROR** | 73 | Socket disconnected. It is caused by network disconnection or destination unreachable. |
| **NET_DVR_USERID_ISUSING** | 74 | The user ID is operating when logout. |
| **NET_DVR_SOCKETLISTEN_ERROR** | 75 | Failed to listen. |
| **NET_DVR_PROGRAM_EXCEPTION** | 76 | SDK program exception. |
| **NET_DVR_WRITEFILE_FAILED** | 77 | Failed to write file, during local recording, saving picture or downloading record file. |
| **NET_DVR_FORMAT_READONLY** | 78 | Failed to format read-only HD. |
| **NET_DVR_WITHSAMEUSERNAME** | 79 | This user name already exists in the user configuration structure. |
| **NET_DVR_DEVICETYPE_ERROR** | 80 | Device type does not match when import configuration. |
| **NET_DVR_LANGUAGE_ERROR** | 81 | Language does not match when import configuration. |
| **NET_DVR_PARAVERSION_ERROR** | 82 | Software version does not match when import configuration. |
| **NET_DVR_IPCHAN_NOTALIVE** | 83 | IP channel is not on-line when previewing. |
| **NET_DVR_RTSP_SDK_ERROR** | 84 | Load StreamTransClient.dll failed. |
| **NET_DVR_CONVERT_SDK_ERROR** | 85 | Load SystemTransform.dll failed. |
| **NET_DVR_IPC_COUNT_OVERFLOW** | 86 | Exceeds maximum number of connected IP channels. |
| **NET_DVR_MAX_ADD_NUM** | 87 | Exceeds maximum number of supported record labels or other operations. |
| **NET_DVR_PARAMMODE_ERROR** | 88 | Image intensifier, parameter mode error. This error may occur when client sets software or hardware parameters. |
| **NET_DVR_CODESPITTER_OFFLINE** | 89 | Code splitter is offline. |
| **NET_DVR_BACKUP_COPYING** | 90 | Device is backing up. |
| **NET_DVR_CHAN_NOTSUPPORT** | 91 | Channel not support. |
| **NET_DVR_CALLINEINVALID** | 92 | The height line location is too concentrated, or the length line is not inclined enough. |

| | | |
|---|---|---|
| NET_DVR_CALCANCELCONFLICT | 93 | Cancel calibration conflict, if the rule and overall actual size filter have been set. |
| NET_DVR_CALPOINTOUTRANGE | 94 | Calibration point exceeds the range. |
| NET_DVR_FILTERRECTINVALID | 95 | The size filter does not meet the requirement. |
| NET_DVR_DDNS_DEVOFFLINE | 96 | Device has not registered to DDNS. |
| NET_DVR_DDNS_INTER_ERROR | 97 | DDNS inner error. |
| NET_DVR_ALIAS_DUPLICATE | 150 | Alias is duplicate (for EasyDDNS) |
| NET_DVR_DEV_NET_OVERFLOW | 800 | Network traffic is over device ability limit. |
| NET_DVR_STATUS_RECORDFILE_WRITING_NOT_LOCK | 801 | The video file is recording and can't be locked. |
| NET_DVR_STATUS_CANT_FORMAT_LITTLE_DISK | 802 | The hard disk capacity is too small and can not be formatted. |
| | | |
| **Error code of RAID** | | |
| NET_DVR_NAME_NOT_ONLY | 200 | This user name already exists. |
| NET_DVR_OVER_MAX_ARRAY | 201 | The array exceeds the limitation. |
| NET_DVR_OVER_MAX_VD | 202 | The virtual disk exceeds the limitation. |
| NET_DVR_VD_SLOT_EXCEED | 203 | The virtual disk slots are full. |
| NET_DVR_PD_STATUS_INVALID | 204 | Physical disk used to rebuild RAID is in error state. |
| NET_DVR_PD_BE_DEDICATE_SPARE | 205 | Physical disk used to rebuild RAID is assigned as spare disk. |
| NET_DVR_PD_NOT_FREE | 206 | Physical disk used to rebuild RAID is not free. |
| NET_DVR_CANNOT_MIG2NEWMODE | 207 | Can not migrate from current RAID type to the new type. |
| NET_DVR_MIG_PAUSE | 208 | Migration has been paused. |
| NET_DVR_MIG_ABOUTED | 209 | Migration has been aborted. |
| NET_DVR_EXIST_VD | 210 | There is virtual disk in the array, and the array can not been deleted. |
| NET_DVR_TARGET_IN_LD_FUNCTIONAL | 211 | Target physical disk is part of the virtual disk and is functional. |
| NET_DVR_HD_IS_ASSIGNED_ALREADY | 212 | Specified physical disk is assigned as a virtual disk. |
| NET_DVR_INVALID_HD_COUNT | 213 | Number of physical disks doesn't fit the specified RAID level. |
| NET_DVR_LD_IS_FUNCTIONAL | 214 | Specified virtual disk is functional and it can not be rebuilt. |
| NET_DVR_BGA_RUNNING | 215 | BGA is running. |
| NET_DVR_LD_NO_ATAPI | 216 | Can not create virtual disk with ATAPI drive. |
| NET_DVR_MIGRATION_NOT_NEED | 217 | Migration is not necessary. |
| NET_DVR_HD_TYPE_MISMATCH | 218 | Physical disks are not of the same type. |
| NET_DVR_NO_LD_IN_DG | 219 | No virtual disk exists on the specified array. |
| NET_DVR_NO_ROOM_FOR_SPARE | 220 | Disk space is too small to be assigned as spare drive. |
| NET_DVR_SPARE_IS_IN_MULTI_DG | 221 | Disk is already assigned as a spare drive for an array. |
| NET_DVR_DG_HAS_MISSING_PD | 222 | Disk is missing from an array. |
| | | |

| Error code of intelligent device | | |
|---|---|---|
| NET_DVR_ID_ERROR | 300 | Configuration ID is illegal. |
| NET_DVR_POLYGON_ERROR | 301 | Polygon does not match requirement. |
| NET_DVR_RULE_PARAM_ERROR | 302 | Rule parameter is illegal. |
| NET_DVR_RULE_CFG_CONFLICT | 303 | Configuration conflict. |
| NET_DVR_CALIBRATE_NOT_READY | 304 | Calibration not ready. |
| NET_DVR_CAMERA_DATA_ERROR | 305 | Camera parameter is illegal. |
| NET_DVR_CALIBRATE_DATA_UNFIT | 306 | Not inclined enough, not fit to calibrate. |
| NET_DVR_CALIBRATE_DATA_CONFILICT | 307 | Calibration error. |
| NET_DVR_CALIBRATE_CALC_FAIL | 308 | Failed to calculate camera calibration parameter. |
| NET_DVR_CALIBRATE_LINE_OUT_RECT | 309 | The input calibrating line exceeds the external rectangle sample. |
| NET_DVR_ENTER_RULE_NOT_READY | 310 | Enter rule not ready. |
| NET_DVR_AID_RULE_NO_INCLUDE_LANE | 311 | It does not include lane in the traffic event rule (especial for traffic jam or driving against the traffic). |
| NET_DVR_LANE_NOT_READY | 312 | Lane not ready. |
| NET_DVR_RULE_INCLUDE_TWO_WAY | 313 | There are two different directions in event rule. |
| NET_DVR_LANE_TPS_RULE_CONFLICT | 314 | The lane conflicts with the data rule. |
| NET_DVR_NOT_SUPPORT_EVENT_TYPE | 315 | The event type is not supported by the device. |
| NET_DVR_LANE_NO_WAY | 316 | The lane has no direction. |
| NET_DVR_SIZE_FILTER_ERROR | 317 | The size of filter is illegal. |
| NET_DVR_LIB_FFL_NO_FACE | 318 | There is no face when feature point positioning. |
| NET_DVR_LIB_FFL_IMG_TOO_SMALL | 319 | The input image is too small when feature point positioning. |
| NET_DVR_LIB_FD_IMG_NO_FACE | 320 | The input image has no face when detecting face in single image. |
| NET_DVR_LIB_FACE_TOO_SMALL | 321 | Face is too small when building model. |
| NET_DVR_LIB_FACE_QUALITY_TOO_BAD | 322 | Face image is of poor quality when building model. |
| NET_DVR_KEY_PARAM_ERR | 323 | Advanced parameter setting error. |
| NET_DVR_CALIBRATE_DATA_ERR | 324 | Calibration sample size error, or data value error, or sample points beyond the horizon |
| NET_DVR_CALIBRATE_DISABLE_FAIL | 325 | The configured rules do not allow to cancel calibration. |

## 5.2 Error code of RTSP communication library

| Error | Value | Message |
|---|---|---|
| NET_DVR_RTSP_GETPORTFAILED | 407 | RTSP port getting error. |
| NET_DVR_RTSP_DESCRIBESENDTIMEOUT | 411 | Sending "RTSP DECRIBE" is timeout. |
| NET_DVR_RTSP_DESCRIBESENDERROR | 412 | Failed to send "RTSP DECRIBE". |
| NET_DVR_RTSP_DESCRIBERECVTIMEOUT | 413 | Receiving "RTSP DECRIBE" is timeout. |
| NET_DVR_RTSP_DESCRIBERECVDATALOST | 414 | Receiving data of "RTSP DECRIBE" error. |
| NET_DVR_RTSP_DESCRIBERECVERROR | 415 | Failed to receive "RTSP DECRIBE". |

| | | |
|---|---|---|
| **NET_DVR_RTSP_DESCRIBESERVERERR** | 416 | "RTSP DECRIBE" device returns the error that values 401 or 501. |
| **NET_DVR_RTSP_SETUPSENDTIMEOUT** | 421 | Sending "RTSP SETUP" is timeout. |
| **NET_DVR_RTSP_SETUPSENDERROR** | 422 | Sending "RTSP SETUP" error. |
| **NET_DVR_RTSP_SETUPRECVTIMEOUT** | 423 | Receiving "RTSP SETUP" is timeout. |
| **NET_DVR_RTSP_SETUPRECVDATALOST** | 424 | Receiving data of "RTSP SETUP" error. |
| **NET_DVR_RTSP_SETUPRECVERROR** | 425 | Failed to receive "RTSP SETUP". |
| **NET_DVR_RTSP_OVER_MAX_CHAN** | 426 | "RTSP SETUP" device returns the error that values 401 or 501. It exceeds the max connection number. |
| **NET_DVR_RTSP_PLAYSENDTIMEOUT** | 431 | Sending "RTSP PLAY" is timeout. |
| **NET_DVR_RTSP_PLAYSENDERROR** | 432 | Sending "RTSP PLAY" error. |
| **NET_DVR_RTSP_PLAYRECVTIMEOUT** | 433 | Receiving "RTSP PLAY" is timeout. |
| **NET_DVR_RTSP_PLAYRECVDATALOST** | 434 | Receiving data of "RTSP PLAY" error. |
| **NET_DVR_RTSP_PLAYRECVERROR** | 435 | Failed to receive "RTSP PLAY". |
| **NET_DVR_RTSP_PLAYSERVERERR** | 436 | "RTSP PLAY" device returns the error that values 401 or 501. |
| **NET_DVR_RTSP_TEARDOWNSENDTIMEOUT** | 441 | Sending "RTSP TEARDOWN" is timeout. |
| **NET_DVR_RTSP_TEARDOWNSENDERROR** | 442 | Sending "RTSP TEARDOWN" error. |
| **NET_DVR_RTSP_TEARDOWNRECVTIMEOUT** | 443 | Receiving "RTSP TEARDOWN" is timeout. |
| **NET_DVR_RTSP_TEARDOWNRECVDATALOST** | 444 | Receiving data of "RTSP TEARDOWN" error. |
| **NET_DVR_RTSP_TEARDOWNRECVERROR** | 445 | Failed to receive "RTSP TEARDOWN". |
| **NET_DVR_RTSP_TEARDOWNSERVERERR** | 446 | "RTSP TEARDOWN" device returns the error that values 401 or 501. |

## 5.3 Error code of software decoding library

| Error | Value | Message |
|---|---|---|
| **NET_PLAYM4_NOERROR** | 500 | No error. |
| **NET_PLAYM4_PARA_OVER** | 501 | Input parameter is invalid. |
| **NET_PLAYM4_ORDER_ERROR** | 502 | API calling order error. |
| **NET_PLAYM4_TIMER_ERROR** | 503 | Failed to create multimedia clock. |
| **NET_PLAYM4_DEC_VIDEO_ERROR** | 504 | Failed to decode video data. |
| **NET_PLAYM4_DEC_AUDIO_ERROR** | 505 | Failed to decode audio data. |
| **NET_PLAYM4_ALLOC_MEMORY_ERROR** | 506 | Failed to allocate memory. |
| **NET_PLAYM4_OPEN_FILE_ERROR** | 507 | Failed to open the file. |
| **NET_PLAYM4_CREATE_OBJ_ERROR** | 508 | Failed to create thread event. |
| **NET_PLAYM4_CREATE_DDRAW_ERROR** | 509 | Failed to create DirectDraw object. |
| **NET_PLAYM4_CREATE_OFFSCREEN_ERROR** | 510 | Failed to create backstage cache for OFFSCREEN |

| | | |
|---|---|---|
| | | mode. |
| **NET_PLAYM4_BUF_OVER** | 511 | Buffer overflow, failed to input stream. |
| **NET_PLAYM4_CREATE_SOUND_ERROR** | 512 | Failed to create audio equipment. |
| **NET_PLAYM4_SET_VOLUME_ERROR** | 513 | Failed to set the volume. |
| **NET_PLAYM4_SUPPORT_FILE_ONLY** | 514 | This API can be called only for file playback mode. |
| **NET_PLAYM4_SUPPORT_STREAM_ONLY** | 515 | This API can be called only when playing stream. |
| **NET_PLAYM4_SYS_NOT_SUPPORT** | 516 | Not support by the system. Decoder can only work on the system above Pentium 3. |
| **NET_PLAYM4_FILEHEADER_UNKNOWN** | 517 | There is no file header. |
| **NET_PLAYM4_VERSION_INCORRECT** | 518 | The version mismatch between decoder and encoder. |
| **NET_PLAYM4_INIT_DECODER_ERROR** | 519 | Failed to initialize the decoder. |
| **NET_PLAYM4_CHECK_FILE_ERROR** | 520 | The file is too short, or the stream data is unknown. |
| **NET_PLAYM4_INIT_TIMER_ERROR** | 521 | Failed to initialize multimedia clock. |
| **NET_PLAYM4_BLT_ERROR** | 522 | BLT failure. |
| **NET_PLAYM4_UPDATE_ERROR** | 523 | Failed to update overlay surface |
| **NET_PLAYM4_OPEN_FILE_ERROR_MULTI** | 524 | Failed to open video & audio stream file. |
| **NET_PLAYM4_OPEN_FILE_ERROR_VIDEO** | 525 | Failed to open video stream file. |
| **NET_PLAYM4_JPEG_COMPRESS_ERROR** | 526 | JPEG compression error. |
| **NET_PLAYM4_EXTRACT_NOT_SUPPORT** | 527 | Don't support the version of this file. |
| **NET_PLAYM4_EXTRACT_DATA_ERROR** | 528 | Extract video data failed. |