HIKVISION

iVMS-5200 Professional Version 3.3.7 Specification

<u>Specification</u>

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About this Manual

This Manual is applicable to iVMS-5200 Professional.

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website (http://overseas.hikvision.com/en/).

Please use this user manual under the guidance of professionals.

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Introduction

iVMS-5200 Professional (hereafter simplified as iVMS-5200 Pro) is a flexible, scalable, high reliable and powerful central video system. Integrating with multiple surveillance systems, iVMS-5200 Pro provides the central management, information sharing, convenient connection and multi-service cooperation. It is capable of managing devices, live view, storage and playback, VCA search, alarm linkage, video wall management, and so on.

Key Components

Server:

Central Management Server (CMS)
Remote Site Manager (RSM)
Stream Media Server (SMS, optional)
Recording Server (Optional)

Client:

Web Client/Control Client/Mobile Client/Video Wall Client

Running Environments

- **Operating System**
  - ➢ Windows Server 2008 R2/Windows Server 2012/ Windows Server 2016/Windows 7/Windows 8/Windows 8.1/Windows 10 (64-bit);

- **Browser Version**
  - ➢ IE 9/10/11, Chrome 35/36/37/38/39/40/41/42/43/44, Firefox 32/33/34/35/36/37/38/39/40

(32-bit);
Note: For Chrome 43/44, you must manually enable NPAPI for the web browser.

- **OS for Smartphone / Tablet**
  - ➢ iOS 7.0 and later (since iPhone 4S)
  - ➢ Android Phone with Android OS version 4.0 or higher, and with dual-core CPU (1.5 GHz or above), and at least 2GB RAM.

- **Virtual Machine**
  - ➢ VMware® ESXi™ 6.x
  - ➢ Microsoft® Hyper-V with Windows Server 2012 R2

  Note: Only CMS and RSM can be installed on the Virtual Machine.

- **Hot Spare**
  - ➢ Microsoft® Windows Server 2008 R2 Enterprise 64-bit (Failover Clustering)
  - ➢ Microsoft® Windows Server 2012 64-bit (RoseReplicatorPlus_5.2.0_268-x64)

  Note: For introduction about RoseReplicatorPlus_5.2.0_268-x64, refer to Rose Datasystems Inc. company's website.

Function Features

RSM

- Provide the management of each CMS
- Provide Role management and User management
- Support log search
- RSM user can receive alarm information of all CMSs.

CMS

- Trigger alarm linkage actions of other function modules
- Provide the live view of the added function module
- Provide normal and hot spare installation mode
- Provide unified authentication service for clients & servers
- Provide the centralized management for the users, roles, permissions, surveillance devices, alarm device and servers
- Provide the log management and statistics function
- Provide the interface for the third-party system integration
- Scalable for medium and large-size projects
- Service manager for system health monitoring

Recording Server (Optional)

- Obtain the audio and video data stream via the SMS or directly from the connected encoding device
- Extract the index information and dump the audio and video data to the storage device to realize the centralized management of the mass video & audio files
- Provide the efficient, secure, convenient storage service for pictures with storage efficiency of 10 pictures per second
- Optimized picture storage performance

SMS (Optional)

- Forward and distribute the audio and video data
- Support live view function via mobile client

Web Client

- Database password editable during server installation
- Add function modules (ANPR and Mobile Surveillance) to basic module for management
- Access to the CMS via IP address or domain name
- Log in with RSM user
- Flexible license activation methods: online activation and offline activation
- Startup wizard guides you through basic operations including:
  - ➢ Adding encoding devices
  - ➢ Setting the recording schedule
  - ➢ Setting the event configuration
- Standard ONVIF™ protocol
- Multiple devices can be added: network cameras, network speed domes, video encoders, DVRs, NVRs, mobile terminal, decoding devices, POS systems, etc.
- Create the password for the detected online devices
- The password strength of the added device can be checked by the system for security notification
- Connectable with the third-party devices via the manufacturer's private protocol, including the network camera of Bosch, and Axis
- Manage the encoding devices, and mobile terminal by areas
- Five adding modes for encoding devices available:
  - ➢ By detecting the online devices
  - ➢ By specifying the device IP address / domain name
  - ➢ By specifying an IP segment
  - ➢ By specifying a port segment
  - ➢ By specifying an Hik-Connect

account.

- ➤ By HiDDNS
- Two adding modes for decoding devices available:
  - ➤ By detecting the online devices
  - ➤ By specifying the device IP address
- CVR (Central Video Recorder) manageable:
  - ➤ Add CVR by IP address
  - ➤ Remotely configure the CVR via web browser
  - ➤ One-touch configuration for setting the CVR storage
  - ➤ CVR N+1 hot spare
  - ➤ Provide ANR function
- Speed dome linkage for fisheye camera configurable
- Support Line Crossing Detection and Intrusion Detection
- Recording
  - ➤ Two storage methods:
    --Central storage: Recording Server (PC software based) and CVR (storage device);
    --Distributed storage: DVR / NVR / network camera (SD card)
  - ➤ Continuous recording, event triggered recording and ATM command triggered recording
  - ➤ Custom recording schedule: All-day Template, Weekday Template, Weekend Template and Template 01-08
  - ➤ Set dual stream for recording (for local device)
  - ➤ Copy the recording schedule to up to 16 cameras
  - ➤ Back up videos stored on encoding device to CVR regularly
- Events & Alarm
  - ➤ Detect camera events, transaction events, alarm input, device

exception, server exception, and custom event:

--Intrusion, Line Crossing

--Camera events: Motion, Video Tampering, Video Loss, etc.

--Transaction events: No Sale Operation, Refund Operation, etc.

--Devices alarm inputs

--Device exception: Device Offline, HDD Full, HDD Read / Write Error, etc.

--Server exception: High Mainboard Temperature, Bad Disk, Disk Loss, etc.

--Custom event: customize new event rules to analyze the received data packages of the integrated third-party system

- ➤ Logical alarm configurable for triggering the linkage actions of other function modules.
- ➤ Support to save event as alarm and set linkage actions for event and alarm respectively
- ➤ Send emails to notify users of the alarm information with email template configurable
- ➤ Preview the defined email contents
- ➤ Set the arming template for the events: All-day Template, Weekday Template, Weekend Template and Template 01-08
- ➤ Set the alarm level: high, medium, low
- ➤ Enable Upload Alarm to RSM to upload the alarm information to RSM
- ➤ Set multiple event linkage actions: Trigger Pop-up Image of Camera, Audible Warning (voice text is supported), PTZ Linkage, Trigger Alarm Output, Recording Linkage,

Send Email, Video Wall Display and Alarm Notification (for camera and transaction event)

➢ Copy event settings/arming schedule to up to 16 resources/dates

● Role & User management

➢ Create the user with the initial password (12345).

➢ When user's first log in to the system or the password is reset, he/she must change the password by using the initial password (12345).

➢ The default password of the admin user must be changed at first-time login.

➢ Support resetting the password for the admin user

➢ The user account will be frozen for 10 minutes after 5 failed password attempts

➢ Add/Edit/Delete the roles and users

➢ The roles can be assigned with different permissions

➢ Two default roles are supported: administrators and operators

➢ The role name, expiry date and text description can be set for the roles

➢ The users can be assigned with the roles to obtain the corresponding permissions

➢ The user name, expiry date and text description can be set for the users

➢ Two types users status are supported: normal and freeze

➢ PTZ control permission level (1-100) can be set

➢ Domain users can be imported in batches

➢ The user can be forced logout by admin

● System Configuration & Maintenance

➢ The logs can be saved for One Week

/ Half a Month / One Month / Six Months

➢ The POS data can be saved for One Week / Half a Month / One Month / Six Months

➢ FTP configuration

➢ A static IP address can be set for the WAN access

➢ NTP settings

➢ Active directory settings

➢ Support database backup and database restore

➢ Download the system logs to view the details of hardware, software, events, etc.

➢ Videos taken by mobile client can be uploaded to the FTP server, and the uploaded files can be searched for view.

● Live view

➢ View real-time video from the cameras

➢ PTZ control; 256 presets/16 patrols/1 pattern

➢ Manual recording

➢ Capture

➢ Instant playback

➢ Digital zoom

➢ Two-way audio

➢ Turn on/off the audio in live view; adjust the volume

➢ Set the window division

● Playback

➢ Playback by files/ timeline

➢ Playback for up to 16 cameras

➢ Download the recordings for backup

➢ Reverse playback

➢ Playback frame-by-frame

➢ Slow forward/fast forward

➢ Turn on/off the audio in playback; adjust the volume

➢ Video clipping and capture

- Set the window division
- Customize playback speed
- Local configuration
  - Set the network transmission settings
    --Network Performance: Normal/ Better/ Best
    -- Play Performance: Shortest Delay / Self-adaptive
    --Captured Picture Format: JPEG/ BMP
    --Enable/ disable Auto-change Stream Type
  - Set local saving path of videos/ pictures
  - Enable/Disable GPU decoding for live view and playback

Control Client

- GPU decoding
- Receive the logical alarm
- Access to CMS via IP address or domain name
- Log in with the domain user
- Log in with RSM user
- The user account will be frozen after 5 failed password attempts
- Access multiple CMSs at the same time
- Receive the CMSs' alarm information that uploaded to RSM
- Live View
  - CMS switchable
  - View real-time video from the cameras
  - View real-time video uploaded from the connected mobile terminal
  - PTZ control; 256 presets / 16 patrols / 1 pattern
  - PTZ control lock / unlock
  - Public view and private view
  - Camera auto-switch / View auto-switch / all cameras auto-switch
  - Manual recording
  - Capture
  - Instant playback
  - Switch stream types
  - Display POS transaction in stream
  - Display detected temperature (for thermal camera)
  - Switch to original view / panoramic view (for 360° panoramic camera)
  - Custom window division
  - Fisheye expansion modes: Fisheye, Panorama, PTZ, etc.
  - Operate the speed dome linkage for the fisheye camera
  - Auxiliary screen preview
  - Digital zoom
  - Two-way audio
  - Turn on/off the audio in live view; adjust the volume
  - Camera status detection
  - Arming control
  - Adjust resource order
  - Download the player for playing the manually recorded video files in live view
- Playback
  - Normal playback for continuous recordings
  - Event playback for recordings triggered by events such as motion detection, video loss, video tampering, etc.
  - POS playback for recordings containing POS information
  - VCA playback based on motion analysis/intrusion/line crossing events
  - Async / Sync playback for up to 16 cameras
  - ATM playback for recordings triggered by ATM command

- Playback in fisheye expansion modes: Fisheye, Panorama, PTZ, etc.
- Add default, customized tag to mark the important video footage
- Play back the tagged video footage
- Playback by timeline / tag
- Lock / unlock the recordings for file protection and the lock can be edited and deleted
- Download the videos by files / date / tag
- Download the player when clipping videos in playback
- Merge the videos (maximum 2GB)
- Switch stream types
- Select storage location for camera
- Transcoding playback
- Reverse playback
- Single-frame backward
- Playback frame-by-frame
- Slow forward / fast forward
- Customize high speed playback settings
- Turn on / off the audio in playback; adjust the volume
- Provide video thumbnail on the timeline
- Accurate positioning for playback
- Digital zoom
- Display POS transaction in stream
- Display detected temperature (for thermal camera)
- Video clipping
- Capture
- Set the window division
- Date with video files is marked

● Alarm Center
- Display event alarm info including alarm time, alarm name, alarm status, etc.
- Receive all CMSs alarms when logging in to RSM
- Display system alarm info including time and description
- View the live video or pictures from the related camera
- Add the mark to the alarm information
- Acknowledge the event alarm with text description
- Arming control for event alarm
- Clear the alarm manually
- Enable / disable the alarm audio
- Enable / disable alarm triggered pop-up image
- Search event log files and alarm log files
- Alarm and event log files can be searched
- Alarm table columns' position adjustable

● E-map
- Local map file (PNG/JPG/BMP)
- Main maps and sub maps for the areas
- Max. 5-level sub maps
- Add / edit / delete the hot region on the map
- Add / edit / delete hot spots (camera / alarm input / alarm output) on the map
- Set the monitoring area for camera hot spots
- Set the name, icon and description for the hot regions and hot spots
- View the live video and alarm info on the map
- Set commonly used location as the preset (maximum 10)
- Zoom in / zoom out on the map
- Capture and edit the map picture
- Up to 128 resources can be added to a map

- View multiple camera hot spots' live view and live view window number is self-adaptive
- People counting statistic
- Heat map statistic
- Transaction (Add-on)
  - POS Live View
    --Display transaction data alongside corresponding video
    --Receive / mark transaction alarm messages
    --Transaction information video overlay / separate display
  - Transaction Event
    --Transactions while no customer is present alert
    --Drawer open too long alert
    --Ability to pull a customizable report based on exception rules previously set-up, such as No Sale, Refund, any transaction below $0.10 / over $200, specific product/department sales, transaction before 9PM/shop close, etc.
  - POS Search
    --Quick Search based on invoice number
    --Advanced Search based on the time / price range / the items description / quantity range, .etc.
    --Fast review based on transaction info thumbnails.
  - POS Playback
    --Play back the transaction data alongside corresponding video
    --Export the recordings and transaction info
  - POS integration
    --Via Hikvision NVR SDK (TCP/IP, RS232)
    --Via NCR Radiant System Protocol

V1.0
--Via Hikvision Private POS Protocol (XML)
- Business Intelligence (Add-on)
  - Transaction Data Analysis: Transaction Report / Commodity Sales Volume / Top Selling
  - Traffic Analysis: Traffic Distribution / Traffic Trending / Customer Gender Analysis / Conversion Rate
  - Retail Traffic Analysis: Heat Map / Interested Area Analysis
  - Synchronously display people entry/exit data on the histogram of Traffic Distribution statistics
  - Export BI statistics in CSV (only for Traffic Trending report) and PNG format
  - Email / print the BI statistics
- Download center
  - Search the video files by storage location / stream type / recording type / tag / time for download
  - Check the downloading tasks and status centrally
  - Merge the videos (maximum 2GB)
  - Flow control settings
  - Continuous transmission on the breakpoint
  - Download the player for playing the video files
- System maintenance and management
  - Monitor the status of physical and logical resources
  - Search, view and back up the CMS logs and device logs
  - Configure the general parameters
    --View Scale: Full Screen / 4:3 / 16:9 / Original Resolution.
    --Network Performance: Normal / Better / Best
    --Play Performance: Shortest Delay

/ Self-adaptive

--Picture Format: JPEG / BMP

--Maximum Mode: Maximize / Full
Screen

--Enable / disable Screen Toolbar
Display

--Enable / disable Auto-login

--Enable / disable Main / sub
stream auto-adaptive

--Enable / disable Record Two-way
Audio

--Customize playback speed

--Enable/disable highlight for
Motion

--Enable/disable VCA rule

--Set local saving path of
videos/pictures/audios

--Set FTP parameters

--Set Keyboard and joystick
parameters

--Set alarm sounds by local audio
files or voice engine (require
support of the OS)

--Lock/unlock the client

--Broadcast

Mobile Client

- Access to the CMS via IP address or
domain name
- Log in with RSM user
- Log in with domain user
- The user account will be frozen after 5
failed password attempts
- Remember history login information
- Add/remove cameras to/from My
Favorites
- Upload the real-time video taken by the
camera of the mobile terminal to the
Control Client for live view
- Live view
  - View real-time video of cameras

- PTZ control
- Turn on / off the audio in live view
- Set the video quality
- Manual recording
- Capture
- Playback
  - Search by date / storage mode
  - Play back the recordings
  - Turn on / off the audio in playback
  - Video clipping
  - Capture
- Receive and display the alarm
notification and view the alarm related
live video or recording
- Display camera details including
appearance, online status, PTZ control,
etc.
- View / delete the captured images and
video clips
- Provide flow statistics of Current Day /
Current Month / History
- Upload videos and pictures from local
mobile terminal or recorded (clipped)/
captured during live view or playback to
FTP server
- Push alarm information

Video Wall Client

- Access to the CMS via IP address or
domain name
- Edit the video wall
- Start wizard guides you through basic
video wall settings
- Show / hide the output No. of the
decoding output for easily locating the
output on the physical video wall
- Decoding and Displaying
  - Switch the window layer
  - Check the decoding status of the

window and the information of decoded signal source

- PTZ control
- Display logo on video wall
- Window-division
- Support cycle decoding for displaying multiple video streams to one video output with switching interval configurable

● Windowing and Roaming
- Drag the signal sources to the window for display
- Support quickly opening a window for video display
- Roaming function for moving the playing window and adjusting the window size
- Auto-adjust the window position: auto-align with the borders if the window is moved to the location near the border of the screen
- Lock the roaming window

● Scene
- Add the scene for easily viewing the required live videos
- Call the scene to display the saved view settings

● Plan
- Add / delete the plan which can be used for switching the configured scene(s) and opening or closing the screens at a certain time
- Configure the operation for the plan, such as calling scene, open the screen, execution mode and execution times
- Call / stop the plan

● Background
- Upload picture as the background of the video wall.
- Show/Hide background picture, switch the pictures and adjust its

position

● Virtual LED
- Set the virtual LED to display the required contents on the video wall
- Show/Hide virtual LED and adjust its position

● Video Wall Screen
- Select the screen type
- Open / close the screens
- Choose the input source for the screen
- Adjust the parameters and position for the image

● Signal Source
- Support multiple signal sources, such as network camera, and video input of the video wall controller (HDMI, DVI, VGA, YPbPr, DVI, BNC, SDI and RGB)
- Live view displayed when hovering the mouse over the signal source more than 3 seconds
- Show the live view and playback on the video wall

● Operations
- Lock / unlock the client
- Switch the login user

● Video Output
- Select the resolution for the video output
- Set the video standard for BNC output

● Alarm Information
- Set alarm window for displaying the video triggered by event
- Display the alarm information

● System Maintenance and Management
- Search, view and back up the log files of the client
- Enable / disable auto-login
- Set local saving path of videos and pictures

Performance Specification

RSM	Performance Specification
Number of Clients per RSM	Maximum 100
Number of CMSs per RSM	Maximum 5
Number of Users per RSM	Maximum 100
Alarm Information with Pictures and Alarm Information without Pictures can be received by a RSM.	Maximum 10 pieces of Alarm Information with Pictures and 100 pieces of Alarm Information without Pictures can be received concurrently by a RSM.
CMS	**Performance Specification**
Number of Connected Cameras per CMS	Maximum 2048
Number of Connected Encoding Devices per CMS	Maximum 1024
Number of Connected Decoding Devices per CMS	Maximum 16
Number of Connected CVRs per CMS	Unlimited
Number of Connected Mobile Terminals per CMS	Maximum 64
Number of Connected Alarm Inputs plus Alarm outputs per CMS	Maximum 2048
Number of Clients per system	Maximum 100
Number of Video Walls per CMS	Maximum 1
Number of Users per CMS	Unlimited
Number of Roles per CMS	Maximum 64
User Permission Levels	Maximum 100
Number of Recording Servers connected per CMS	Maximum 32
Number of Stream Media Server connected per CMS	Unlimited
POS Systems Access	Maximum 100
Alarm Information with Pictures and Alarm Information without Pictures can be received concurrently by a CMS.	Maximum 10 pieces of Alarm Information with Pictures and 100 pieces of Alarm Information without Pictures can be received concurrently by a CMS.
Recording Server	**Performance Specification**
Number of Cameras per Recording Server	Maximum 64
Video Storage Efficiency	Maximum 128 Mbps
Picture Storage Efficiency	Maximum 10 Pictures per second
Storage Space of Single Recording Server	Maximum 80 TB, Minimum 100 GB
Storage Space of One Disk in Recording Server	Maximum 8 TB, Minimum 100 GB
Stream Media Server	**Performance Specification**
Video Input Bandwidth per Stream Media Server	Maximum 300×2 Mbps
Video Output Bandwidth per Stream Media Server	Maximum 300×2 Mbps

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