IP Camera Surveillance Platform

Created with Pride in the United States of America

Most Advanced & User-Friendly Features

Sigmax IP video surveillance solution platform is designed from the perspective of **security professionals with IT proficiency** in mind.

Sigmax NVR IP camera software platform provides the most efficient solutions to ever-demanding needs of security professionals ranging from a small grocery store to a corporate-wide installation. Our solutions are comprehensive and remain yet so simple to setup and operate that people with different computer skill levels from beginners to IT professionals would benefit.

Camera Support

- Support for more than 1000+ camera models from 20+ manufactures, and counting. Complete list available at http://www.sigmaxsecurity.com/supportedIP.aspx

- Universal camera driver used to support almost all cameras via RTSP or HTTP

- IP camera search and discovery

- Support up to 32 IP cameras per network video recorder (NVR)

- Central management of unlimited number of NVRs

- Select MJPEG for best video quality to conform to the surveillance security purpose

- Native IP camera resolution support, i.e., up to the highest resolution that a megapixel IP camera can deliver

- Camera motion detection, motion exclusion area, sensitivity, pre- and post-motion dwell time

- Camera-side privacy zones

- Camera configuration in one centralized easy-to-use GUI: all cameras can be independently configured: resolution, quality, frame rate, color, brightness, contrast, image-flip, BLC, etc

- Camera tampering alarm monitoring

- Support audio recording from NVR system microphones (L/R) and from as many as connected audio-supporting IP cameras

- Support camera alarm I/O, up to 32 inputs and 32 outputs per server

- Hybrid support for video encoders or Sigmax analog video capture cards

- ONVIF support

Live Video Monitoring

- Centralized viewing of live and recorded video of all cameras from local server or any client

- Multiple monitor support, dual monitors for NVR and up to 10 display monitors for central management station (CMS)

- Multiple camera display modes up to 36 cameras per screen for both live view and playback

- Higher screen resolutions, 1280 x 1024 default, up to 2560 x 1600

- Support spot monitor

- Two mouse clicks to copy primary monitor display to the spot monitor

- Support touch screen monitor

- Conspicuous and easily recognizable color-coded camera recording status — motion (red), alarm and exception event (yellow), continuous (blue)

- Instant review — Instant playback of any video event (motion, alarm, or POS exception triggered) without interrupting live monitoring

- User can open as many instant review windows as needed; image window can be resized and moved to any display screen

- Simultaneous display of live view, playback, and instant review with multiple screens

- Full featured Windows clients with CMS software (free download)

- Mobile clients access — iPhone, iPad, and almost all mobile devices with Internet access

- Unlimited number of users can view live or recorded video simultaneously

- CMS support unlimited number of NVRs and unlimited number of IP cameras

- Both NVR and Client applications are self-explanatory and require little or no training

- View live or recorded images from any camera in the system full screen or in a grid mode

- Cameras from multiple servers are organized in layered tree structure, enabling easy and quick access of any camera from any server

- Select any cameras from any servers via the camera organization tree to form and save the display profile, user can create as many display profiles as needed

- Drag and drop video image in multiple camera display mode to organize related group of cameras in a clean order — e.g. cameras display order can be easily organized such that a person or a vehicle can be clearly followed as the subject moves thru the camera views in a sequential order

- CMS can open up to 10 windows and view up to 360 cameras total simultaneously

- Each of the 10 CMS windows can be configured independently to manage any cameras from any NVRs

- Each CMS window can be resized and moved to any connected screen of a display wall

- A true large-scale central video monitoring and control console can be built systematically with ease using Sigmax powerful CMS

- Display and record up to 30 FPS per camera

- Digital PTZ on any live or recorded image, simple and intuitive mouse operation to navigate

- Mouse roller-ball to zoom in and out, or point and draw a block to zoom in

- Point and drag to Pan/Tilt the video image to any direction

- Two way audio communication between server and CMS client

- Taking screen snapshots of live or recorded video in JPEG format with one mouse click

- User configurable video pop-up and audio alert for any camera in the system upon motion, alarm, POS exception events

- Support full screen display of single or multi-view cameras with mouse over pop-up monitoring navigation tool bar

- Scrolling event list window shows system, motion, audio, POS, alarm, POS exception events and provides quick access and instant review of video associated with the events

- Sequential switch of individual camera or multi-view display, dwell time configurable. One mouse click to start or stop video sequential switching

- Built-in text overlay of POS/cash register/ATM real-time transaction data. One mouse click to show or hide the text overlay

- Conspicuous display of video file retention period and storage usage percentage

PTZ Control

- Two methods of controlling PTZ camera — on-screen navigation arrow to move PTZ to any direction and mouse roller to zoom in/ zoom out; standard emulated PTZ control keyboard

- Support 16 PTZ Presets, auto-tour, and auto-pan functions

- PTZ presets and auto-pan configuration — name the preset to easily associate it with the actual view, e.g., "Front Entrance;" include or exclude a preset in the PTZ auto-pan; adjust dwell time for which the PTZ camera will stay during auto-pan before moving to the next one

- A sliding bar is conveniently included to adjust the Pan/Tilt speed

- PTZ auto-tracking is accurately simulated via association of the PTZ and any related fixed cameras. Any PTZ camera can be configured to auto-track a moving object as long as the object is covered by a fixed camera

- Digital PTZ on any live or recorded image, easy and straightforward to navigate

- Mouse roller-ball to zoom in and out, or point and draw a block to zoom in

- Point and drag to Pan/Tilt the video image to any direction

- Full PTZ control for authorized CMS client

Audio

- Two way audio communication between any NVR server and any authorized CMS monitoring client using NVR and CMS system microphones and speakers by default

- Support audio recording from NVR system microphones (L/R) and from as many as connected audio-supporting IP cameras

- Synchronized playback of video with associated audio

- Playback recorded audio from local server or from any authorized CMS monitoring client

- Two way audio communication between any NVR server/ authorized CMS monitoring client and any IP cameras equipped with microphone and speakers

- Broadcast live or pre-recorded audio warning message to any designated speakers upon motion, alarm, or exception alerts

- Buffer audio in low bandwidth environments

POS/ATM Data Interface and Exception Report

Network video recorder and POS interface with exception report has been proved to be the most effective tool to minimize internal theft and reduce inventory shrinkage. Exception means abnormal or unusual transactions here. Detail info and on-line demo can be found at http://www.sigmaxsecurity.com/solutions.aspx

- **Great compatibility** with over 800 different POS/ATM/cash registers as a result of 20 years of know-how, including all PC-based and majority of proprietary standalone system such as IBM, NEC, NCR, TEC, Gilbarco, Passport, Micros, Samsung, Casio, Sharp, …

- **Cost effective** — built-in text overlay eliminates the need for expensive analog text inserter

- **Easy-to-use** with on-screen Wizard for Interface setup, operation, and management

- **Fully adjustable text overlay** — user-select text font, size, color, line width, and position of the overlay with respect to the video display window

- Create unlimited number of POS exception conditions, sample and Wizard provided

- Show or hide text overlay anytime during live monitoring or playback

- **Instant event retrieval** — by using instant review as the exception occur, by searching exception event list, or by comparing entered text with captured data base, users are able to find the wanted events almost instantly

- **Exception Report** — notify supervisors of the exception events as they occur in real time both locally or remotely; access all exception events at the end of the day for review

- **Data mining** supported. All transaction data are stored and tallied for retroactive analysis.

- Support up to 32 POS/ATM interface per NVR server

- Two methods of data interface supported:

    - Serial — run twisted pair wire (typically CAT5e) from each POS terminal, ATM, or cash register to NVR. Sigmax data capture boxes and tri-port cables required

    - Network — only one network cable required between NVR and POS back-end server (POS software suites need to support this function)

- Interface with industrial, commercial, and medical electronic measurement equipment available — Our senior Electronics/IT engineer team will work with you on project where Video/Audio/Data integration is crucial to you (e.g. Electronic weight scale, Slot machine, Flow meter, EKG/ECG, Radar gun, Time Clock, Auto-ID system, Biometrics, etc).

Recording, Search, and Playback

- Support continuous, schedule, motion, alarm/POS exception recording

- Up to 24 recording schedules to meet even the most demanding recording requirements

- Record video from time-lapse speed of 1/30 to real-time 30 frame per second

- Configure multiple recording frame rates based on continuous, motion, alarm/POS Exception for each camera individually

- Configure recording resolution, and quality settings for each camera individually

- Configure motion exclusion area, sensitivity, pre and post-motion dwell time, and motion beep for each camera individually; motion setup is easy with live image and the aide of graphical showing of motion blocks and sensitivity threshold

- Support smart motion to reduce the unnecessary recordings of repeated constant movement such as swaying branches over a period of time

- Taking screen snapshots of live or recorded video in JPEG format with one mouse click

- Support audio recording of system microphone (L/R) and up to 32 audio channels per NVR server with audio-supporting IP cameras

- Intuitive access to recorded video for any cameras in the system regardless of location

- Powerful smart search — search the incidents by calendar and 24-hour timeline slider, video tracks, snapshots, audio tracks, from event lists, exact date & time, and/or by key-in POS/ATM transaction keyword

- Graphical 24-hour timeline video tracks highlight motion and alarm/POS exception recording activities for each camera

- Graphical 24-hour timeline audio tracks highlight audio recording activities for each audio input

- The 24-hour search slider bar provides quick access to the searched event

- Event lists are categorized by the following: system events, motion events, alarm events, POS/ATM events, POS Exception events, and audio events

- Display chosen event types such as alarm and POS exception events in one convenient drop-down list table for instant access and playback on the selected calendar day

- Search POS/ATM events by entering transaction keywords to pinpoint the events instantly. Boolean algorithm supported

- Recorded video in MJPEG format, each individual frame has the same video quality as live images and permissible in the court of law. No mosaic effects as often occurred using H.264 or MPEG4

- Playback in multiple display mode, full screen, various speed, text overlay turned on/off

- Select the starting time and use convenient play, pause, rewind, fast forward, fast rewind buttons to navigate recorded video/audio events

- Frame by frame or variable playback speeds from slow 1/16 up to fast 16X forward and backward

- Playback up to 36 cameras simultaneously in one single screen

- Playback single or multi-view cameras in full screen with mouse over pop-up playback navigation tool bar

- Synchronized playback of multiple cameras

- Synchronized playback of video with associated audio

- Playback video with text overlay turned on or off from associated POS/ATM or other electronic device

- Continuous playback of the entire recorded video/audio clips for any camera or group of cameras, forward or backward, at fast or slow speed

- Two mouse clicks to go to the beginning or the end of the entire video file

- Digital zoom in/out on all recorded video, easy and straightforward to navigate

- Instant review — Instant playback of any video event (motion, alarm, or POS exception triggered) while live monitoring

- Consistent date/time/camera title stamp across all cameras and recorded files

- Automatically mark events been reviewed; users can also clear any events from event lists

Video Export

- Easy and self-explanatory video exporting in AVI or JPEG format

- The default AVI format is compatible with all major media players

- Ability to export video not only in single but also in multi-camera mode

- Export video with synchronized audio and with text overlay

- Selection of different compression encoders, MJPEG, MPEG4, H.26X for advanced users

- Ability to export video in original recorded frame rate or in time-lapse mode

- Digital authentication available to apply invisible watermarks

- Ability to preview the contents of the selected AVI file before exporting

- Export video/audio files to a CD/DVD disc, memory stick, local drive, network drive, or e-mail address

- No restriction on export time length. Exported file size up to 2 Gigabyte each (limitation of AVI file format), just one single continuous operation required to export content-rich video clips that exceed 2 GB

- Automatic date/time/camera title stamp across all exported video clips

- "Verifier" for digital authentication is available for download at www.sigmaxsecurity.com to confirm if the exported video clips been tampered or modified

Storage Management

- Support for internal and external storage devices including NAS, SAN, and iSCSI

- No storage limits

ΣSIGMAX   http://www.sigmaxsecurity.com

- Use all available disk space and overwrite the oldest file by default

- Each logical drive can be individually configured as an extended storage or as a duplicate back-up copy to any NVR on the network.

- Ingenious file structures enabling continuous playback, forward or backward, of the entire video/audio clips recorded across multiple files for any camera or group of cameras

- User can mark important recorded files for non-recycle

- User can rebuild data files in case of file corruption due to power loss or any other reason

- Backup selected video files to a safe media or to a network drive

e-Map (to be released soon)

- Graphical maps provide quick access to cameras and a simple visual understanding of camera placements

- Structured multi-level mapping provides enterprise view

- Various map formats supported: JPEG, BMP, GIF

- e-Map with NVR, camera, microphone, and speakers icon placement can be easily created by drag and drop icons on the map

- Create as many e-Maps as needed

- Import Earth pap or street map from popular website such as Google, Yahoo

- Click camera icon on the map for live video pop-up

- Click NVR icon on the map will open the sub-map associated with the NVR and all cameras from this NVR

- Click microphone icon associated with the IP camera on the map to enable/disable the selected microphone, default status: enabled. Back to default status after time-out

- Click speakers icon associated with the IP camera on the map to enable/disable the selected speakers, default status: disabled. Back to default status after time-out

- Other pre-defined icons can be used to display a group of cameras with same characteristics such as doors, check out lanes, parking lots from pre-defined display profile

User Administration and Security

- Comprehensive and self-explanatory user management

- Users can be configured to be permitted or denied any or all of the following rights — administration, remote monitoring, playback video, audio access, PTZ control, e-map access, POS text overlay

- Administrator can temporary disable any user accounts to restrict NVR server access until enabled again

- Set user accounts to automatically expire on specified date until activated again

- Set user accounts to automatically expire after remote login for the specified period of time

- Assign individual camera permissions to users

- Only one configurable open port required for CMS monitoring station and Web clients

- Secure user name and password encryption

- Detail logs of system changes and activities

- Video stream encryption through Secure Sockets Layer (SSL)

- Digital authentication available to apply invisible watermark to exported video/audio files

- "Verifier" program is available for download at http://www.sigmaxsecurity.com/download.aspx to verify the authenticity of the watermark

- Mark important recorded video events for non-recycle

- User can rebuild data files in case of file corruption due to power loss or any other reason

- Backup selected video files to a safe media or to a network drive

- Runs as a Windows Service preventing shutdown and ensuring automatic startup

- Built-in daily health check-up function

- Built-in software watchdog

Notifications and Alerts

- Conspicuous camera status flagging on top right corner for each camera — motion (red), alarm and exception event (yellow), continuous (blue)

- Configurable video pop-up of the camera upon motion, alarm, exception events

- Programmable audio warning upon motion, alarm, exception events

- Email alert messages with attached JPEG snapshots upon motion, alarm, exception events

- Move PTZ to presets upon motion, alarm, exception events

- Activate digital alarm outputs upon triggered alarm inputs

- On-screen alert messages on CMS monitoring stations on camera video loss, network failure, NVR server down, etc.

- Motion setup for alert uses different algorithm from motion for recording. Annoying false alerts commonly caused by motion are minimized

Center Management Station

- Support unlimited number of NVRs

- Unlimited number of users can view live and recorded video simultaneously

- Structured multi-level e-map and layout greatly simplified the complexity of managing thousands of cameras across multiple sites.

- Support both centralized and distributed structures

- Access to all cameras in the system

- View live or recorded video from multiple NVRs in a single display

- A convenient video quality sliding bar is provided at the lower left screen of CMS to adjust for best balance between streaming frame rate and video quality. Note: it does not affect NVR recording quality.

- Built-in easy-to-use dynamic IP support for NVR server. Only one IP address (or hostname) and one configurable port required to access the NVR and all the associated IP cameras

- Support for remote NVR server administration — configure NVR setup parameters, restart or reboot NVR, view NVR system log, and access NVR info. These advanced features are disabled by default and will only be activated upon request by advanced users.

- CMS can open up to 10 windows and view up to 360 cameras total simultaneously

- Each of the 10 CMS windows can be configured independently to manage any cameras from any NVRs

- Each CMS window can be resized and moved to any connected display screen

- A true large-scale central video monitoring and control console can be built systematically with ease

- Take snapshots of CMS display screens and save in the CMS local drives for later review

- Record any selected cameras on the CMS display screens and save in the CMS local drives for later review or as a backup copy to the NVR server. Note: recording frame rate and image quality may be limited by the network throughputs

Web Clients

- Support practically all mobile phones and all web browsers — live view, playback, PTZ control, and POS text overlay

Integration with Third-Party Device

Open API for any third-party integration:

- Alarm panels

- Access controls

- Home automation systems

- Video analytics

- License Plate recognition

- Other IP-based applications

User Friendly Features

- Clean and straightforward GUI layout with self-explanatory control buttons aided by on-screen illustrations

- Setup Wizard and template provided where it's necessary

- Easy NVR and CMS system configuration backup and restore.

- Almost all routine operations are achieved by one or two mouse clicks and no keyboard

- One click access to User Menu

- Auto start and auto login function for NVR, CMS, and Web clients

- Built-in easy-to-use dynamic IP support for NVR server

- Easy NVR and CMS software upgrade via Internet

- On-line FAQ and How-to video at http://www.sigmaxsecurity.com/support.aspx

- Superior technical support — Seasoned field-experienced engineers are available to you only a phone call or e-mail away.

Accessories

- Sigmax Data capture box for serial POS interface

- POS interface software license