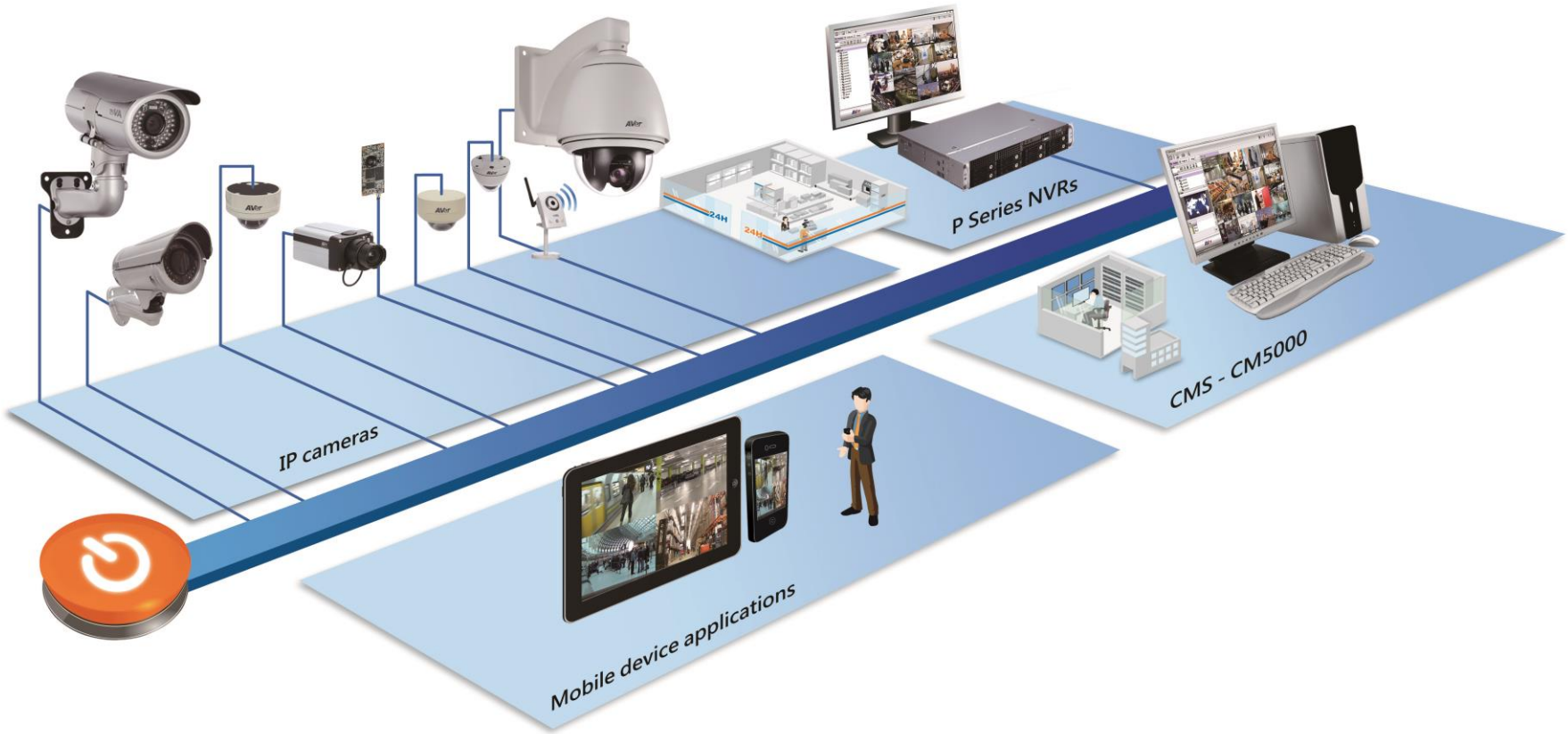
M.S.I.K
مبین صنعت ایمن کاران

P series
NVRs and hybrid NVRs

Release department: iRetail PMK | AVer Information Inc. | www.aver.com | 2014-10

L4 External - all

Reliable performance	Optimized bandwidth & storage	Easy setup



New-generation HD IP surveillance

Why P series?

POS/ATM integration

Seamless integration
with AVer IP cameras

High Performance
Real-time preview
Excellent throughput

Easy to install and operate

Hybrid ONVIF Full HD 1080 HDMI

AVer

AVer P5036-R

NVR

- Supports up to 36CH IP cameras
- 10 HDD trays with internal RAID support (levels 0, 1, 5 & 10) (8 removable)
- iSCSI support for extended hard disk or RAID support
- Embedded Linux operating system using a CPU Intel® Processor offering excellent reliability
- Excellent recording performance with up to 256 Mbps (input & output) throughput rate
- Our visual search function allows the data to be found within 45 seconds

ONVIF

Full HD 1080

HDMI

Full range of NVRs

iPOS integration

Optimized Recording Mode

Visual Search

AVer P5036–16–R

Hybrid NVR

- Supports up to 36 CH with a maximum of 16 analog
- 10 HDD trays with internal RAID support (levels 0,1, 5 & 10) (8 removable)
- iSCSI support for extended hard disk
- Embedded Linux operating system using a CPU Intel® Processor offering excellent reliability
- Excellent recording performance with up to 256 Mbps (input & output) throughput rate
- Our visual search function allows the data to be found within 45 seconds

ONVIF

Full HD 1080

HDMI

Hybrid

Full range of Hybrid NVRs

iPOS integration

Optimized Recording Mode

Visual Search

AVer

Decoding capability - preview

- **Unlimited megapixels** with AVer IP cameras
- **72 megapixels** for 3rd party ONVIF-compliant IP cameras

  up to ***5*** megapixels per channel
- **Real-time** preview guaranteed for AVer IP cameras*

ONVIF

*≤2 megapixels display per channel

AVer

Recording capability

High throughput performance guarantees reliable recording

Recording capability of 36 cameras = up to **256 Mbps**

- Multiple streams from each IP camera
- Total 36 cameras at the same time

Storage capacity

internal

supports 10 SATA HDDs (6TB)

- 8 removable HDD trays+2 internal HDDs
- RAID level 0,1, 5, 10 support

external

iSCIS support (1 target, 4 LUN each supporting 16TB)

total

124TB* **for the system**

*(10 x 6) + (16 x 4) = 124

Multiple outputs

2 different output interface suitable for different applications

- HDMI & VGA

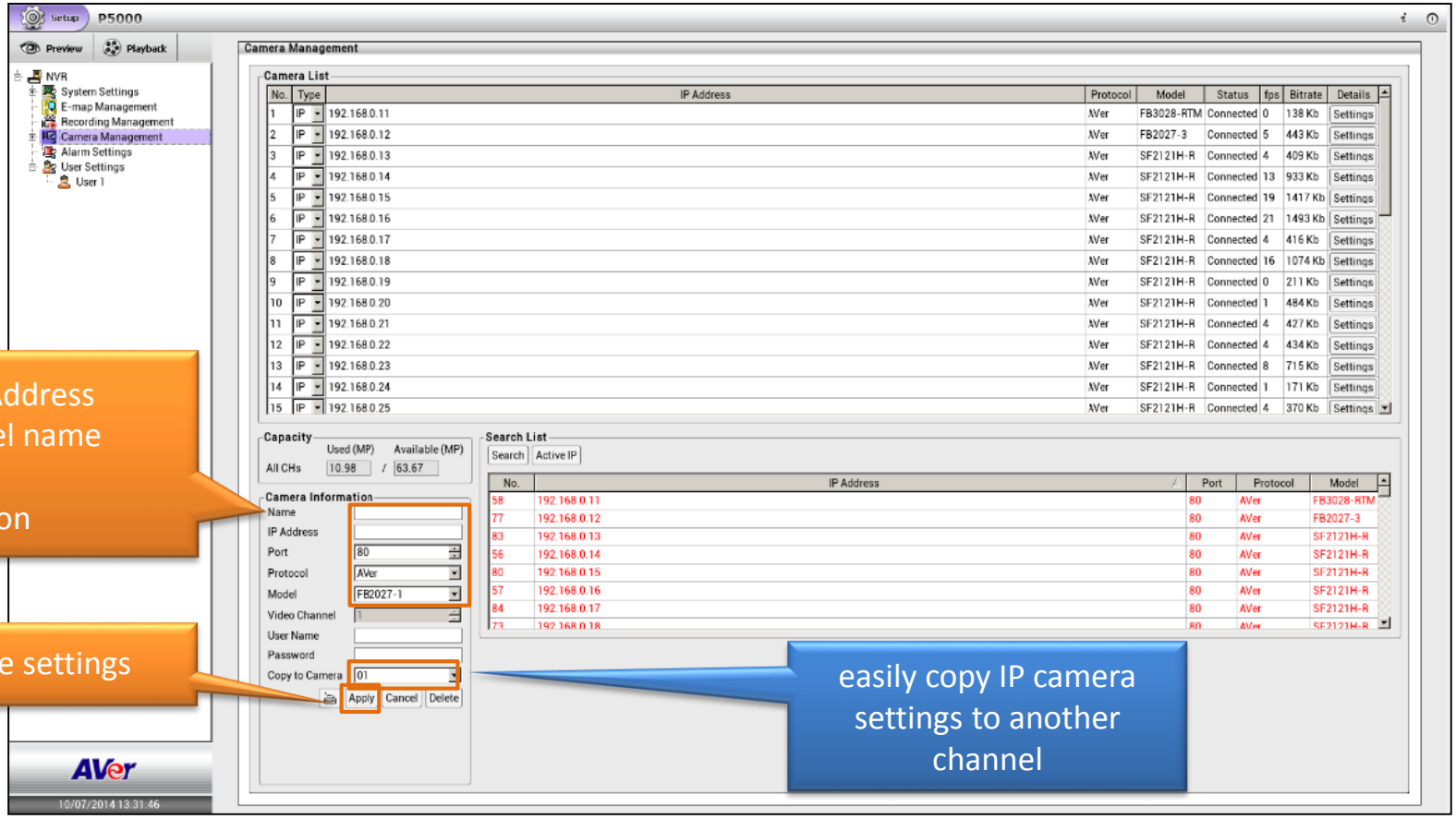
• HDMI and VGA can be used for dual-monitor mode

Intuitive user interface

Easy to install & operate

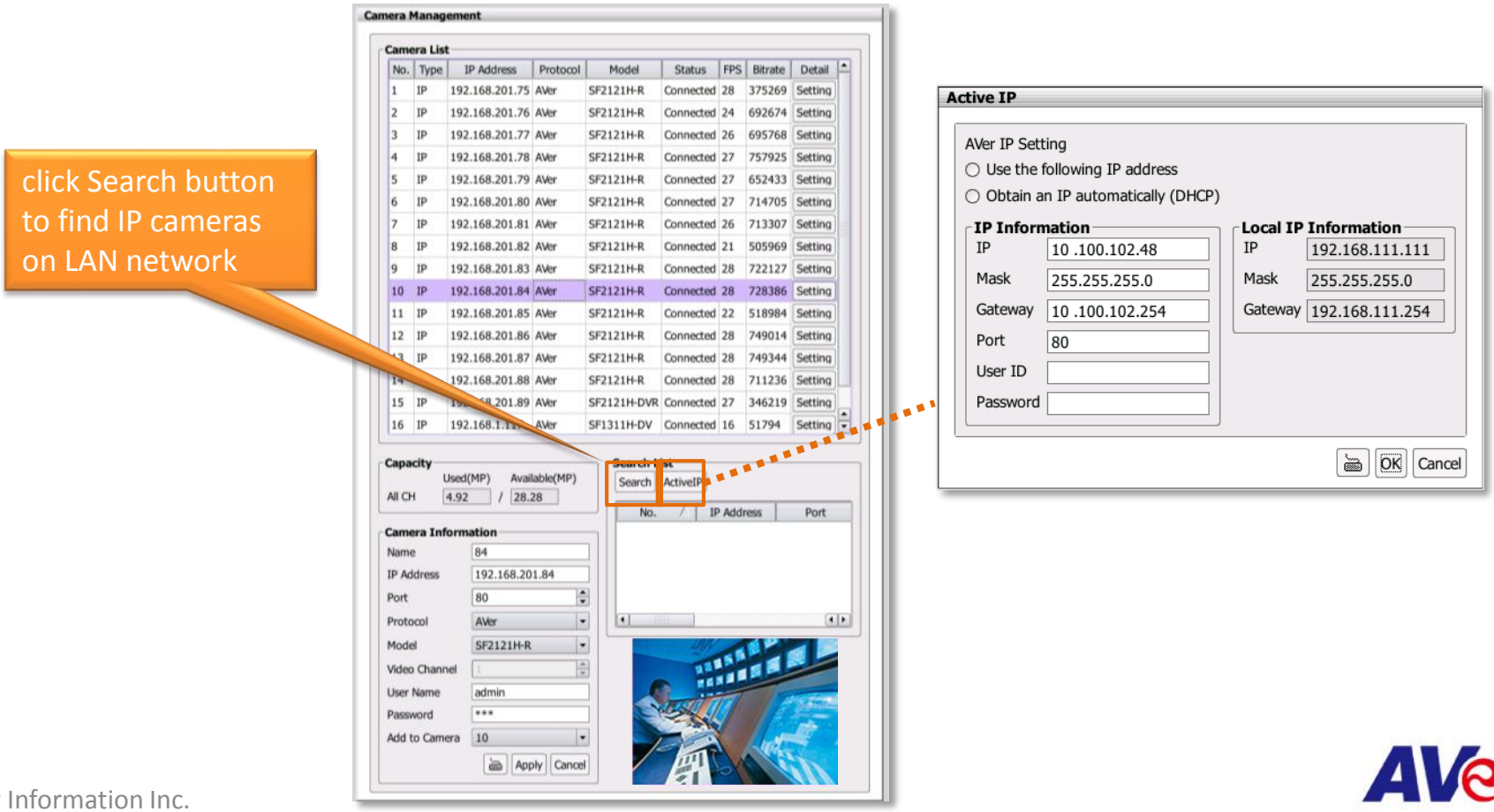
Add IP cameras with ease

2 steps to add IP cameras and use copy function to create more



Active IP support

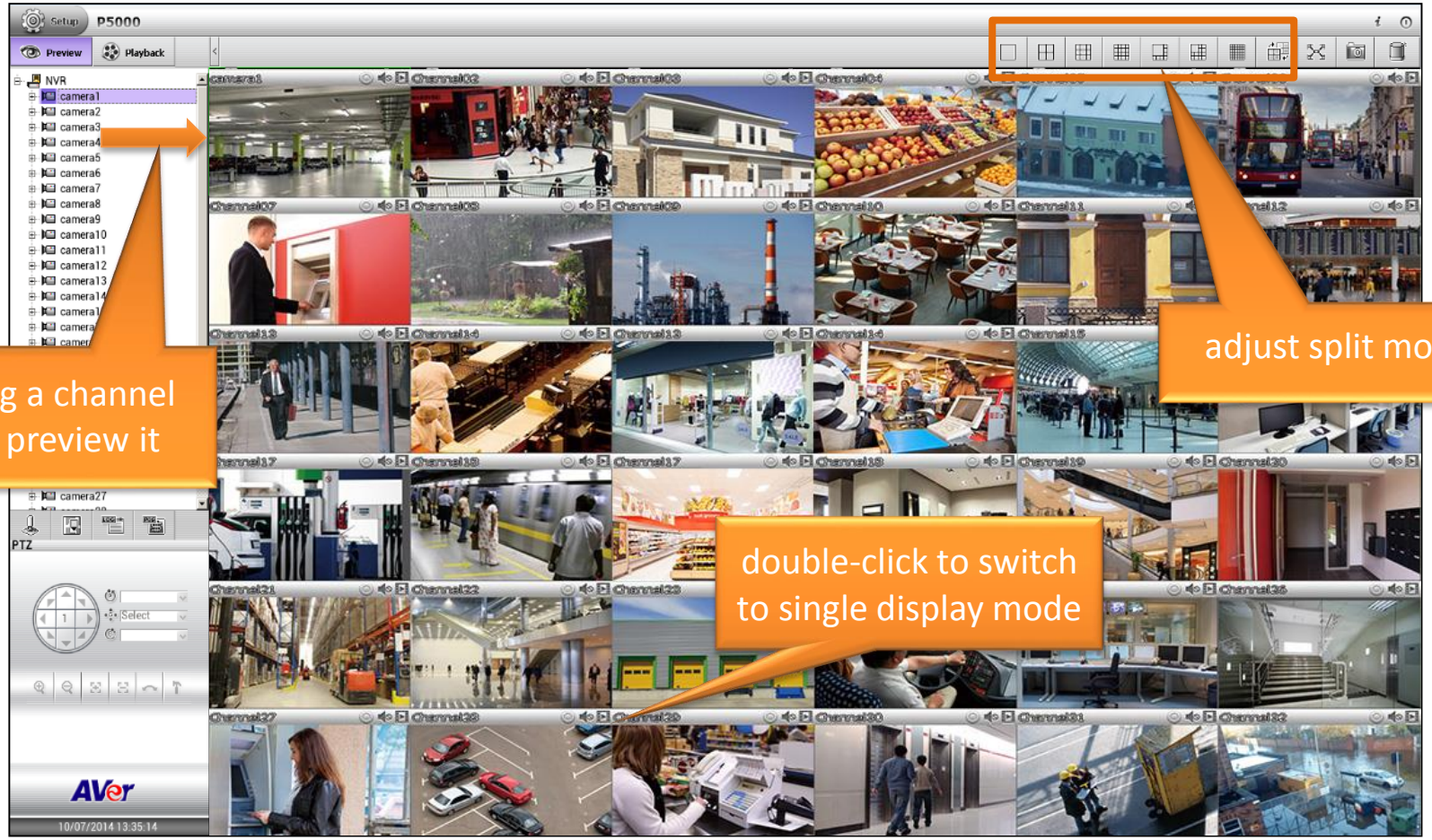
- The Active IP function allows users to directly configure the AVer IP camera series.
- No need to use any additional software.



Flexible preview modes

Available splits: Single, Quad, 8-split, 9-split, Full Screen, AutoScan

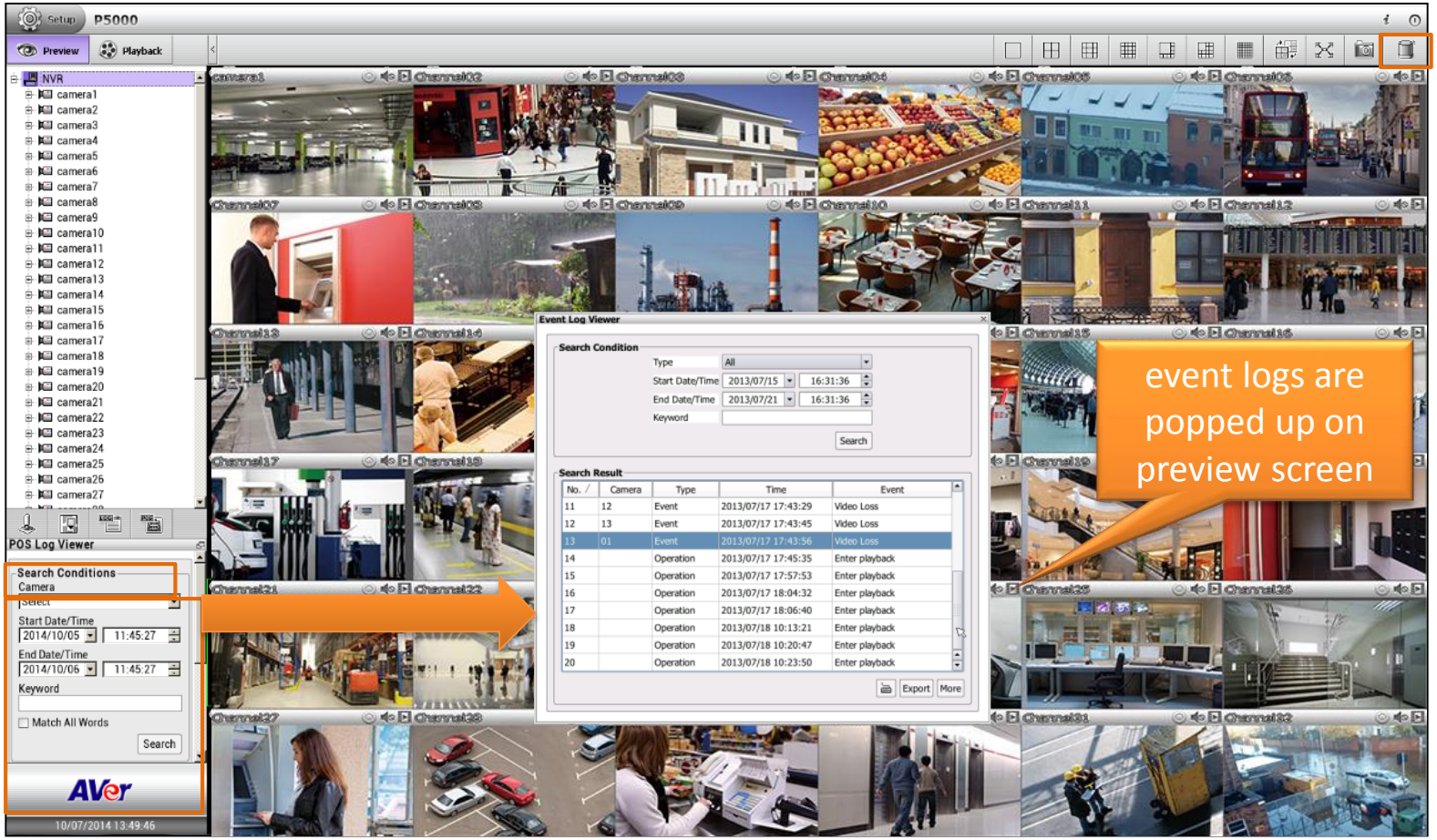
Additional splits (16CH models): 13-split, 16-split



Multiple operation modes

Operate PTZ, E-Map, Event Log Viewer, POS Log Viewer and Alarm Log Viewer functions without closing preview mode

Alarm Log Viewer



PTZ/E-Map/Even Log Viewer/POS Log Viewer

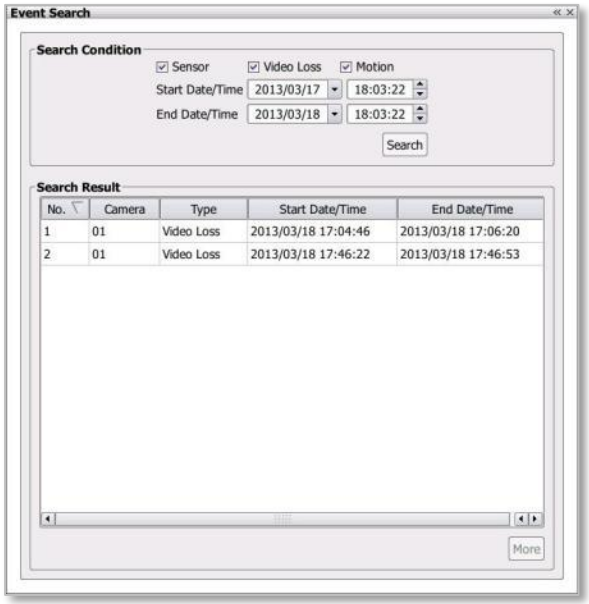
Quick search

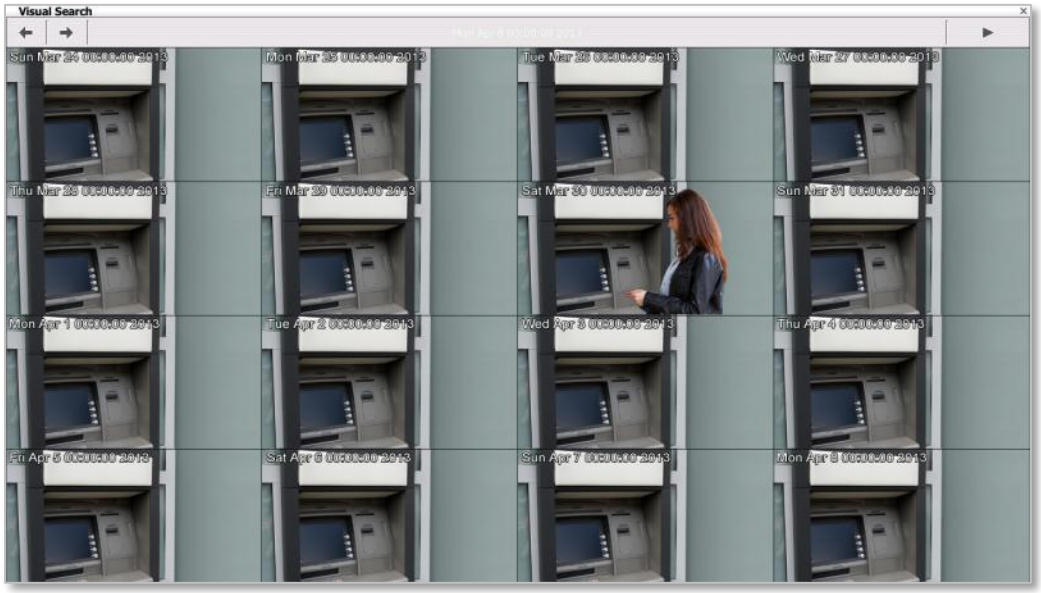
- **Event search**

  Smart search of recorded footage by date, time and different conditions, e.g. sensors, motion, video loss and POS.

- **Visual search**

  Show **video snapshots** by days, hours, minutes, and seconds





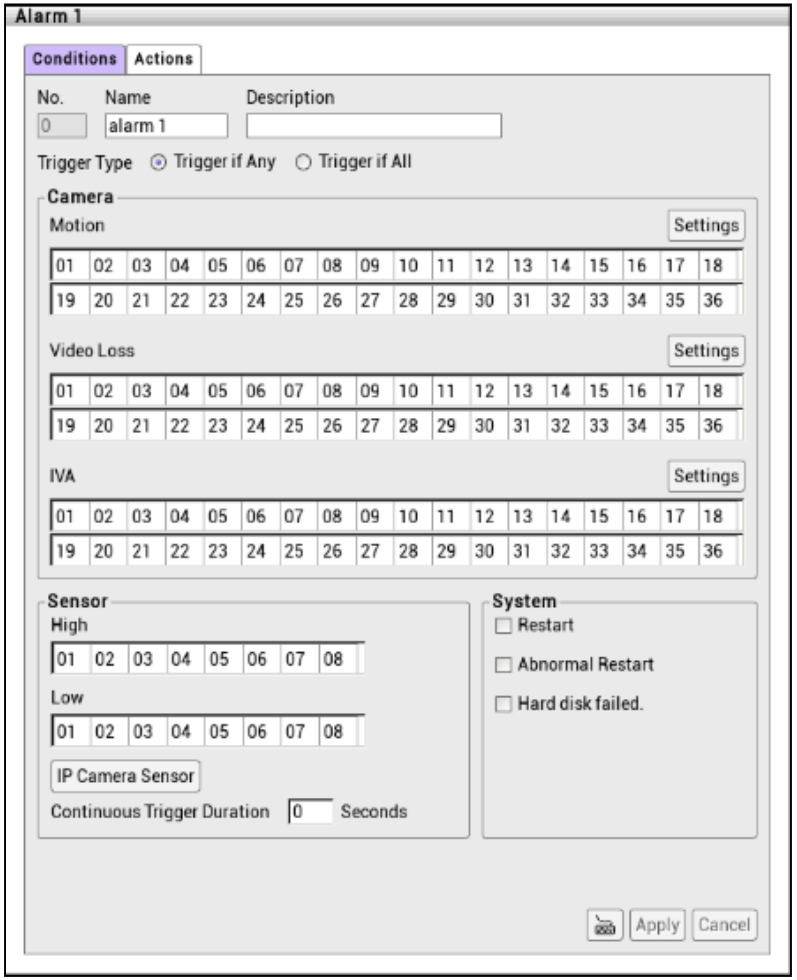
Schedule recording smartly

5 recording modes

- **Always recording**
- **Optimized Recording Mode**
- **Event recording**: records from selected cameras, when the system detects movement (with AVer IP cameras only)
- **Smart recording**: records when motion is detected; if no motion, it records at key frame only (with AVer IP cameras only)
- **No recording**

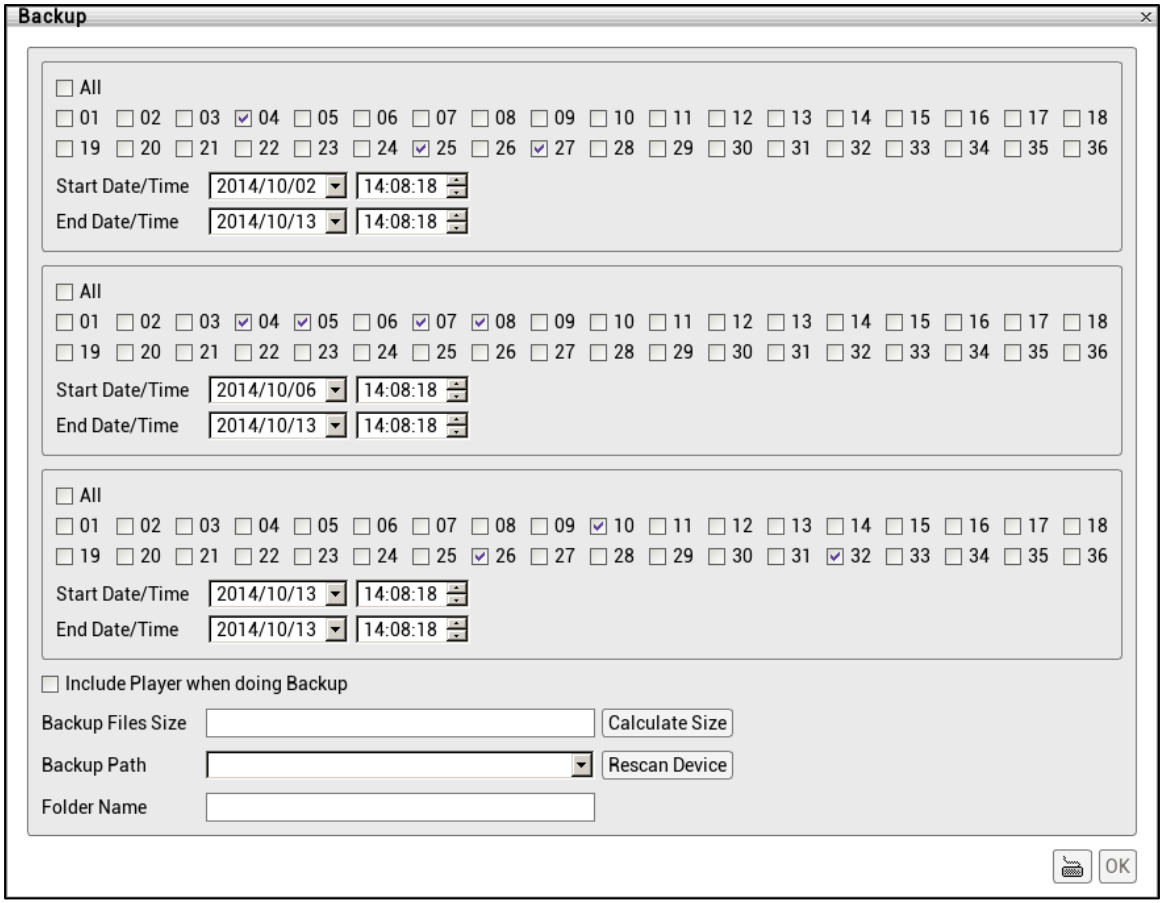
Easy schedule management

- Apply the record schedule to other or all camera channels



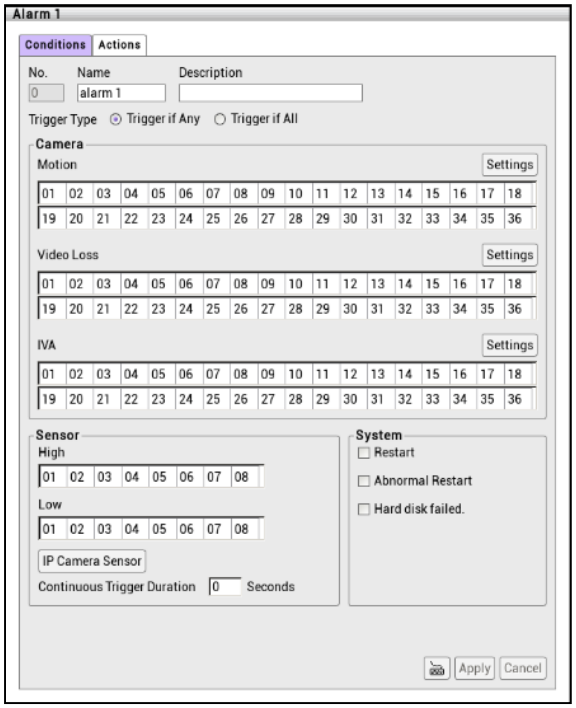
Smart backup for multiple files

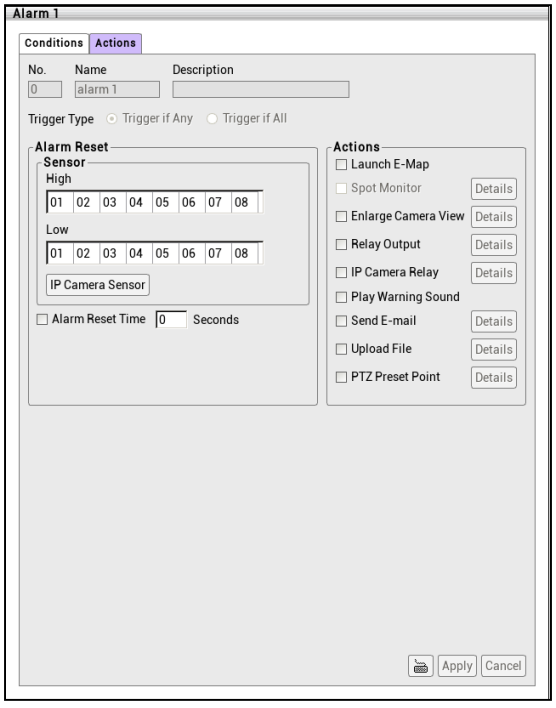
User can backup up to **3** recorded files at the same time by selecting different channels and different time period.



Complete alarm actions

Offers different types of alarms to perform: Launch E-Map, Spot Monitor, Enlarge Camera View, Relay Output, IP Camera Relay, Play Warning Sound, Send E-Mail, File Transmission via FTP, PTZ Preset Point . In addition, users can also set and receive triggers from IP cameras.



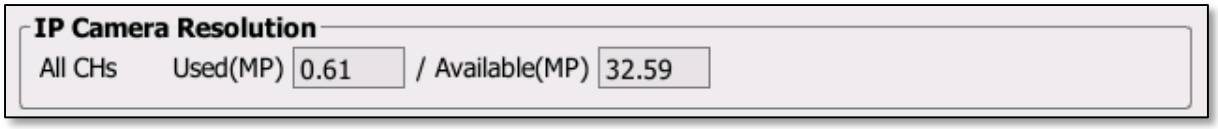


E-maps to locate IP cameras

- Supports up to 8 E-maps in BMP or JPG image format
- Able to locate cameras, sensors, and relays to desired positions

Smart Tools for project management

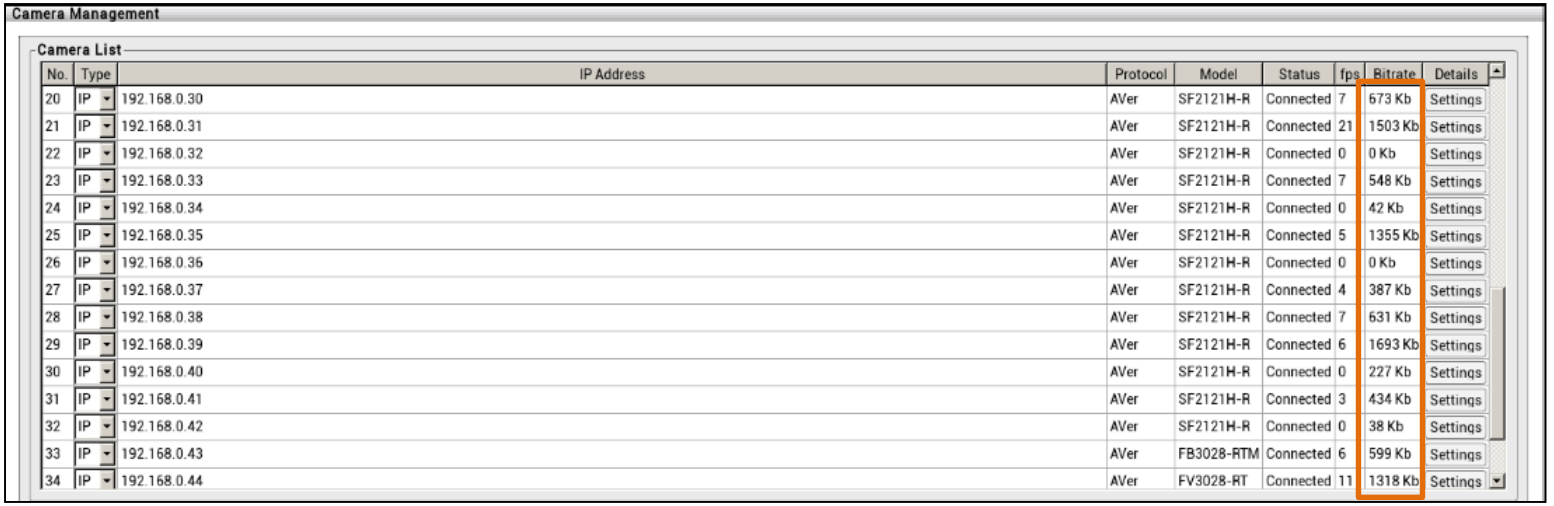
- **Resolution management:** displays the all connected IP cameras' resolution in **Used** (MP) column and the total resolution system allowed in **Available** (MP) column



- **Built-in HDD calculator:** key in either Expected HD Size (GB) or Expected Record Time (Days) to get the Total Recording time (Days)

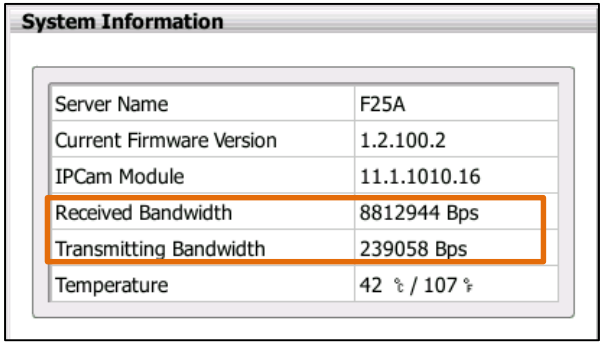
Smart Tools for project management

- **Camera Bitrate status:** displays the all connected IP cameras' bitrate status. It can help planner easily adjust IP Cam to show better performance.



No.	Type	IP Address	Protocol	Model	Status	fps	Bitrate	Details
20	IP	192.168.0.30	AVer	SF2121H-R	Connected	7	673 Kb	Settings
21	IP	192.168.0.31	AVer	SF2121H-R	Connected	21	1503 Kb	Settings
22	IP	192.168.0.32	AVer	SF2121H-R	Connected	0	0 Kb	Settings
23	IP	192.168.0.33	AVer	SF2121H-R	Connected	7	548 Kb	Settings
24	IP	192.168.0.34	AVer	SF2121H-R	Connected	0	42 Kb	Settings
25	IP	192.168.0.35	AVer	SF2121H-R	Connected	5	1355 Kb	Settings
26	IP	192.168.0.36	AVer	SF2121H-R	Connected	0	0 Kb	Settings
27	IP	192.168.0.37	AVer	SF2121H-R	Connected	4	387 Kb	Settings
28	IP	192.168.0.38	AVer	SF2121H-R	Connected	7	631 Kb	Settings
29	IP	192.168.0.39	AVer	SF2121H-R	Connected	6	1693 Kb	Settings
30	IP	192.168.0.40	AVer	SF2121H-R	Connected	0	227 Kb	Settings
31	IP	192.168.0.41	AVer	SF2121H-R	Connected	3	434 Kb	Settings
32	IP	192.168.0.42	AVer	SF2121H-R	Connected	0	38 Kb	Settings
33	IP	192.168.0.43	AVer	FB3028-RTM	Connected	6	599 Kb	Settings
34	IP	192.168.0.44	AVer	FV3028-RT	Connected	11	1318 Kb	Settings

- **Bandwidth status:** displays whole system current bandwidth usage status. It can help planner understand how much cable bandwidth should apply.



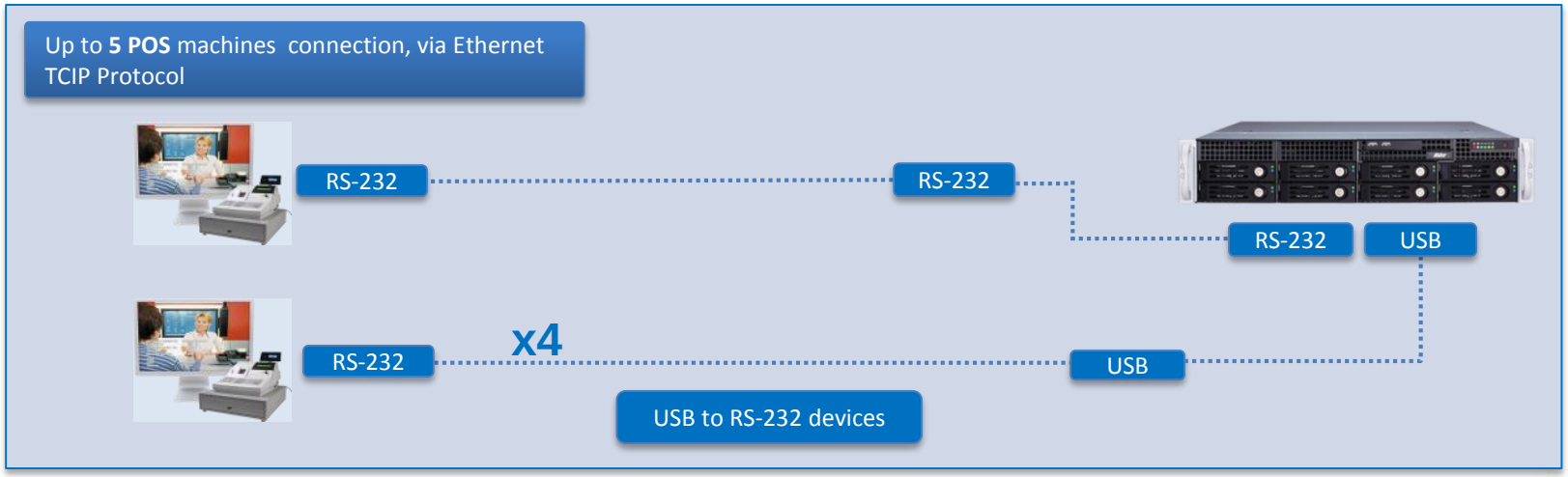
Server Name	F25A
Current Firmware Version	1.2.100.2
IPCam Module	11.1.1010.16
Received Bandwidth	8812944 Bps
Transmitting Bandwidth	239058 Bps
Temperature	42 ℃ / 107 ℉

POS/ATM integration

POS Integration & iPOS

Best for Retail & Wholesale Industries

- Advanced POSViewer enables users to cross check live and recorded **transaction texts** with images
- Confidential **keyword filter** for easy and protective POS management
- Intelligent video playback search by transaction time, keyword, channel, et al.
- Open user interface for POS protocol customization
- Remote POS and NVR management from the comfort of your office and home



Search Stored Video

Search Options

- **Event search**
  - by date, time, motion in
  - selected area, vision and log file
- **Visual search** (shows video snapshots)
  - by days, hours, minutes, and seconds

Playback Options

- Playback at selected speeds (up to **32x**)
- Noise reduction filter during playback
- **Video watermark** technology to prevent tampered video and image
- Easily save links to particular locations of recorded data and play them directly from the saved links

Open platform for POS integration

Perfect for retail industries

- POSViewer enables users to cross check live and recorded transaction texts with images
- Confidential keyword filtering for easy and protective POS management
- Open user interface for POS protocol customization

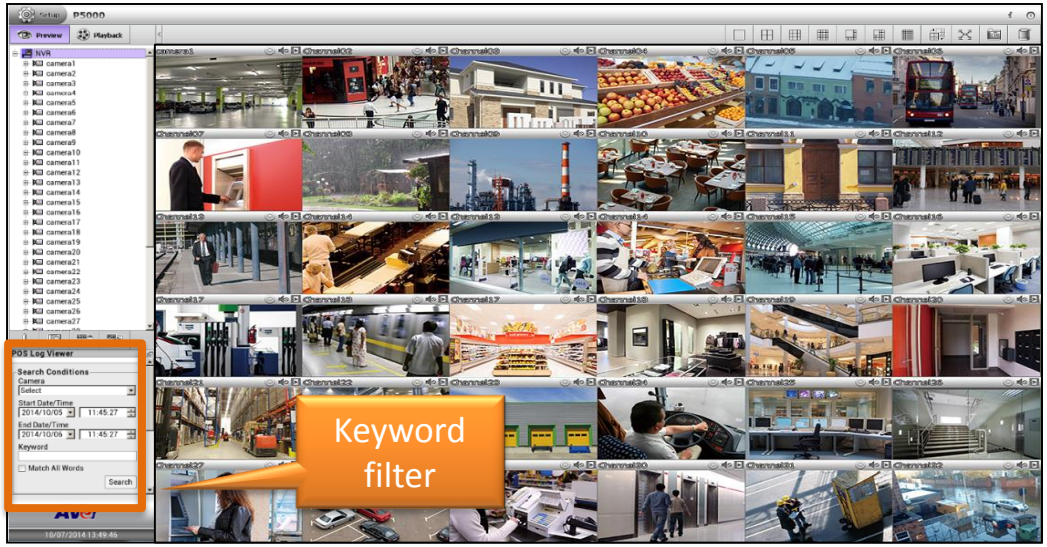
Text overlay & display

Font color setting

Playback

Text filter

POS Log Viewer



Seamless integration

AVer IP cameras

Hard-to-beat solution

- **Optimized Recording Mode** for better recording effiecency
- **Plug and play** for faster installation
- **Unlimited** megapixels connection
- **Intelligent streaming** guarantees **real-time preview** performance
- **CM5000 can connect over 1000 NVRs**

Integrated setup with standardized UI

AVer camera settings*, including not only the basic ones like IP address, but also camera-embedded advanced options like ROI, Smart Stream, or motion detection, can now be set directly via P series NVRs and CM5000 CMS.

*AVer Rugged series, FX2000, FX3000-R, FB2027-1/2/3, FB3027, FV2028, FV3028, FD2020/-M, FD3020/-M

Remote management

CM5000 CMS
Mobile apps

CM5000 (Central Management System)

CMS

- Connect over **1000 NVRs**
- Preview up to **33 channels** on a single page, connect up to 132 live channels
- Full remote control over the recorder including preview, playback, settings
- Fully standardized GUI, the same for local and remote site
- Quad monitor support
- Advanced search functions: event search and visual search
- Up to **128** user accounts
- Up to **4096** E-maps

Designed for E/P-series NVRs

Over 1000 NVRs

Up 132CH Live-view

Full Control Remotely

Up to 4096 E-maps

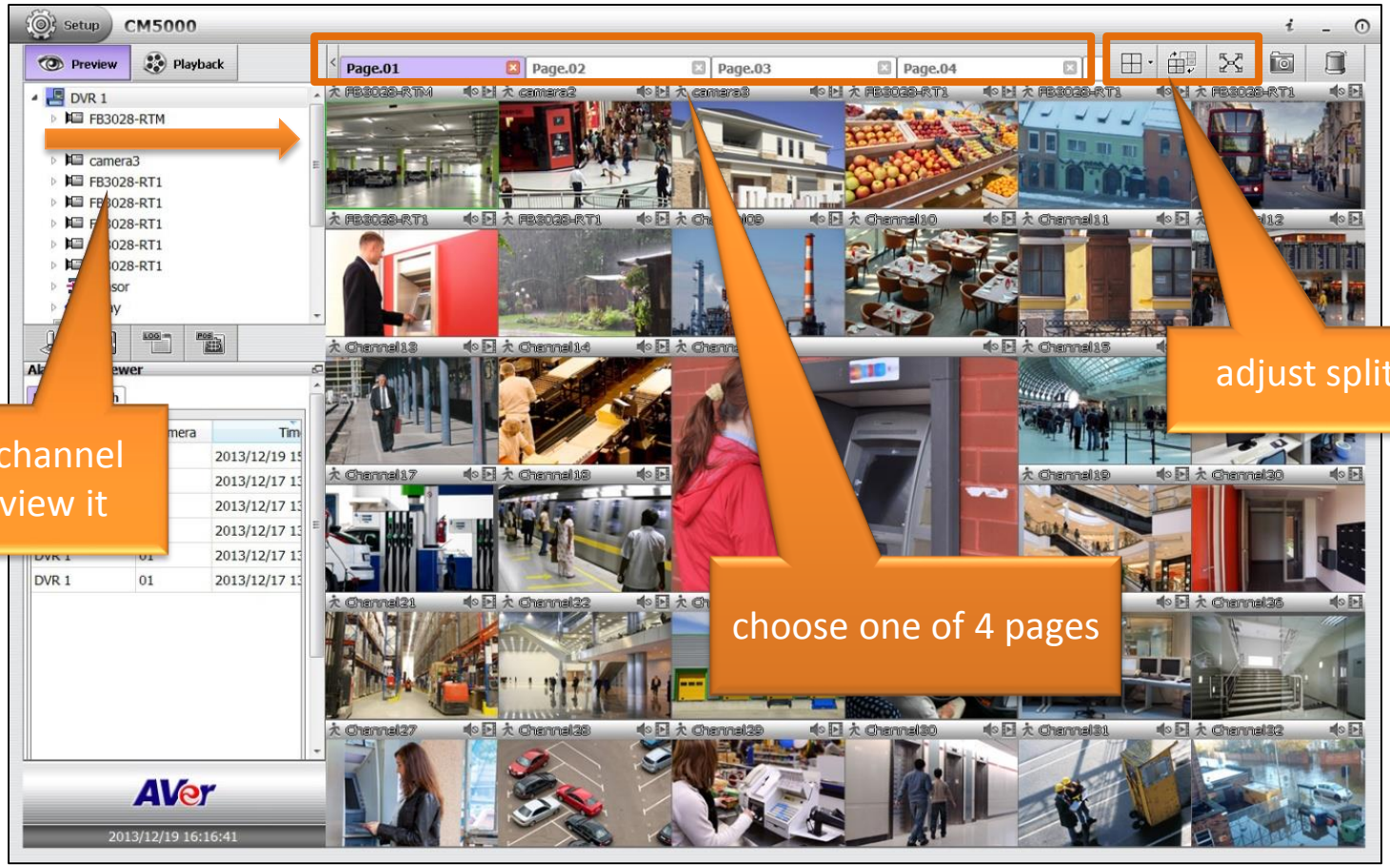
Connect over 1000 NVRs

CM5000 CMS

Over 1000
P-series
NVRs

Preview up to 33CH at once

Connect up to 132 live channels grouped in 4 pages, preview up to 33 channels at once



Dual monitor support

Use four monitors to preview video and observe E-map at the same time

Fully standardized GUI

Low learning curve for AVer solution, the same GUI at local and remote site

P series GUI

CM5000 GUI

Mobile apps – iViewer & AndroidViewer

Mobile app

- NVR & IP cam connection
- Remote preview and playback
- connection up to 32 channels
- 4CH live preview split modes
- Landscape/ portrait layouts
- Authorization mechanism
- Address book
- Remote PTZ control
- A database of 1024 cameras which can be linked

iViewer
for iPhones and iPads

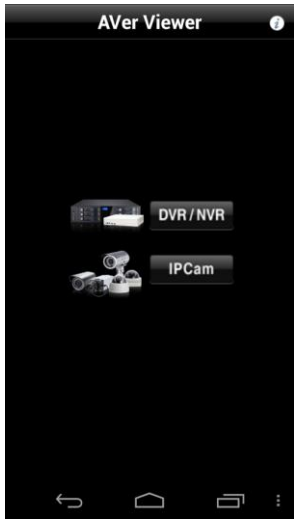
Available on the App Store

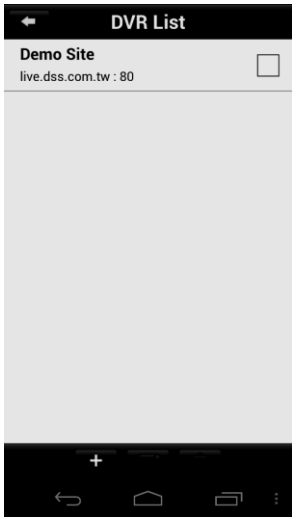
AndroidViewer
for Android phones and tablets

GET IT ON Google play

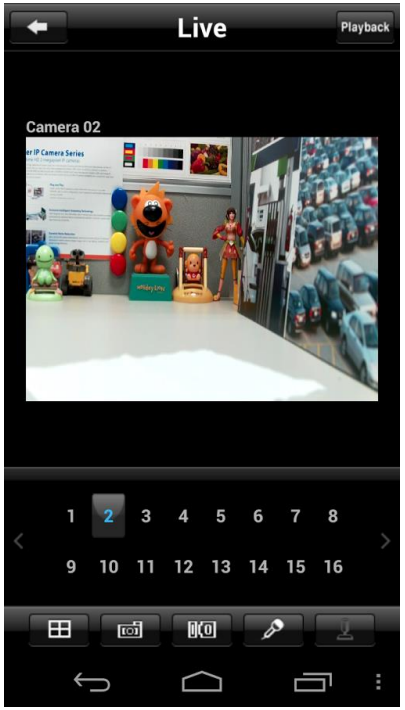
Mobile apps – iViewer & AndroidViewer

Connect to NVRs and IP cameras via smartphone or tablet

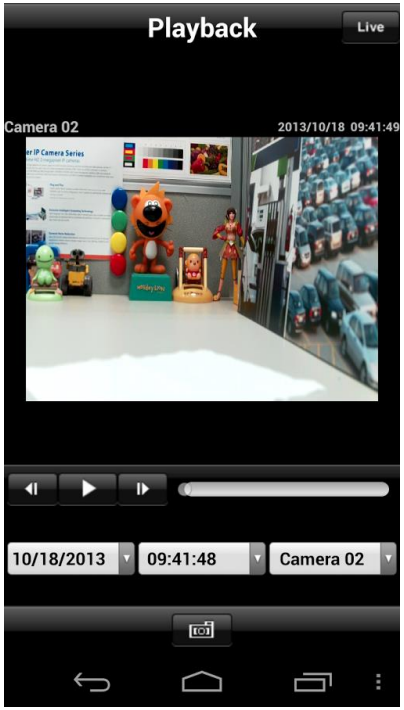




Device selection



Preview



Playback

Appendix A

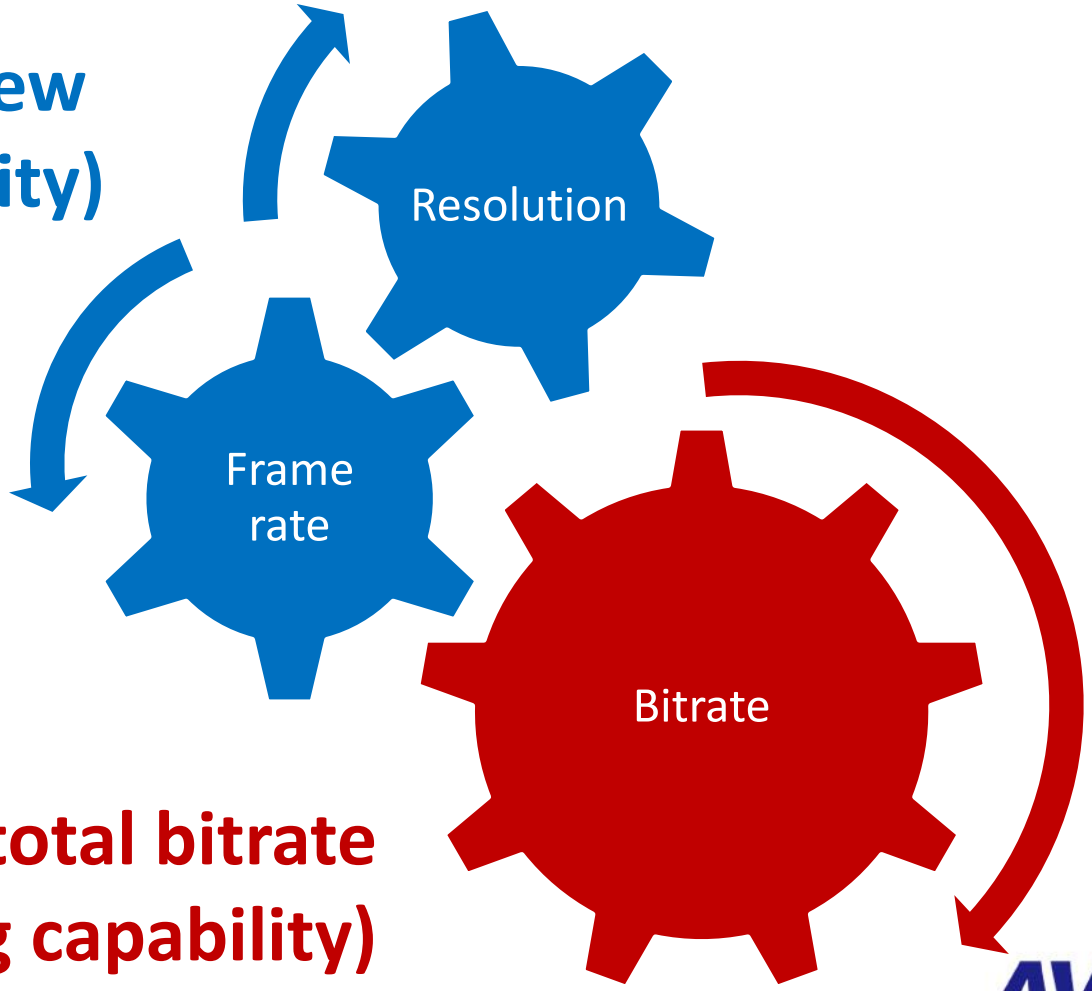
Preview, throughput, RAID introduction

External - all

Performance

Recorder performance are mainly decided by 3 factors

Preview
(decoding capability)

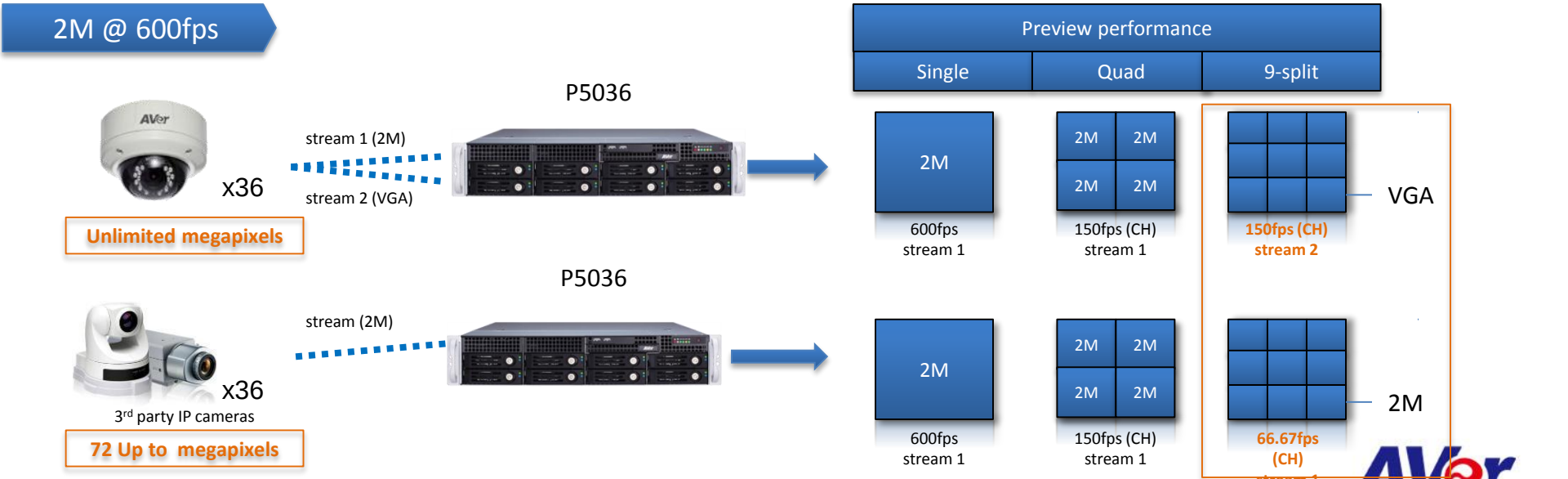


Throughput or total bitrate
(recording capability)

Preview

- Preview = decoding capability
- Specification described: megapixels @ fps
- Example, P5036 preview is **2M @ 600fps**
  - **Intelligent streaming** function is automatically enabled at 9-split display mode to ensure **VGA** resolution at 150fps preview quality (with AVer IP cameras)

P5036 decoding capability = 1920x1080 (2M) x 600 (fps) = **1,244,160,000**
If all 2M IP cameras are displayed at Quad mode:
1,244,160,000 ÷ (1920x1080) (2M) / 4 (Quad) = 150fps
If all 2M IP cameras are displayed at 9-split mode **(Intelligent streaming enabled)**:
1,244,160,000÷ (640x480) (VGA) / 9 (split screen) = 450fps ➔ 150fps



Preview comparison

Preview performance		
Single	Quad	9-split

2M @ 600fps

x36

stream 1 (2M)

stream 2 (VGA)

P5036

2M	2M 2M 2M 2M		VGA
600fps stream 1	150fps (CH) stream 1	150fps (CH) stream 2	

Example – if 2M IP cameras display at 9-split mode:
1920x1080 (2M) x 600 (fps) = **1,244,160,000**
1,244,160,000 ÷ (640x480) (VGA) / 9 (split screen) = 450fps ➔ 150fps

2M @ 140fps

x32

stream 1 (2M)

stream 2 (VGA)

IWH5416+16

2M	VGA VGA VGA VGA		VGA
140fps stream 1	236.25fps (CH) stream 2	105fps (CH) stream 2	

Example – if 2M IP cameras display at 9-split mode:
1920x1080 (2M) x 140 (fps) = **290,304,000**
290,304,000 ÷ (640x480) (VGA) / 9 (split screen) = 105fps

Throughput

- Throughput (total bitrates or max. bandwidth) = recording capability
- Example – P5036 with **throughput 256 Mbps**

CBS settings	Total streams recorded	Total bitrates	P5036 recording result
2 Mbps	36	72 Mbps	OK
4 Mbps	36	144 Mbps	OK
6 Mbps	36	216 Mbps	OK
8Mbps	36	288 Mbps	≤ 256 Mbps saved

- P5036 can receive 2 streams from each IP camera, so the throughput quota (total bitrates) will be consumed per stream.

Stream 1: 6 Mbps

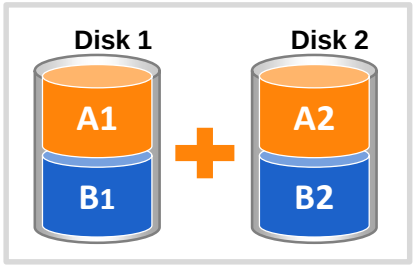
Stream 2: 4 Mbps

Bitrates used

10 Mbps

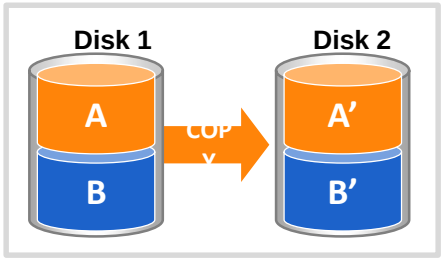
RAID support

RAID (Redundant Array of Independent Disks)
is a storage technology used to combine multiple disks into one entity



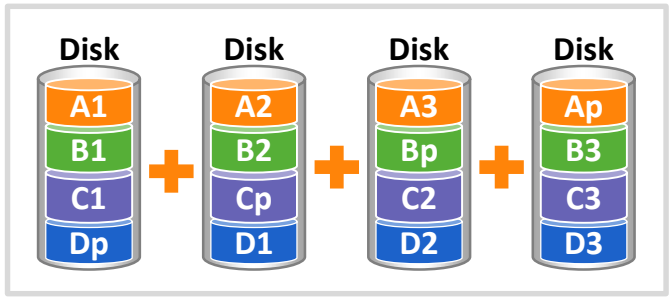
RAID 0 (striping) – combines disks into one large storage space (min. 2 disks)

- Improved performance
- Standard reliability (no fault tolerance)
- Cost-effective



RAID 1 (mirroring) – creates an exact copy ('mirror') of one disk array using the other one (min. 2 disks)

- Improved reliability – one disk can fail (for 2-disk array)
- Standard performance
- Moderately expensive



RAID 5 (striping with distributed parity) – distributes data among disks and creates parity – information for data recovery (min. 3 disks)

- Good performance and reliability (one disk can fail)
- Cost-effective, commonly used for business data storage (1-1/n space used, 75% for 4 disks)