Navigator 5.0 User Manual

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Overview

The Navigator (hereafter referred to as "Navigator") is a comprehensive solution to the management of our network products, including IP cameras, DVRs/NVRs, and a wide range of applications. Navigator consists of (1) network video recording software, (2) eMap Manager, (3) Database Manager, (4) Web Server, and (5) Remote DVR/NVR playback and file download.

Major functions of this software include the management of videos and images recorded by a wide range of cameras produced by us, recording video clips in the SD card of remote IP cameras and DVRs/NVRs, and supporting video playback and file download. Navigator can be installed at various sites for camera management. According to geographical locations and functionalities, the software can also divide IP cameras and DVRs/NVRs into groups to help users view group images and videos.

eMap Manager is an innovative central management system for live monitoring, alarm snapshots, and map management. Devices installed at different locations can be displayed and managed with simple clicks on user-defined maps. One of the many highlights of this function is the dual screen design, which ease the management of DVRs/NVRs and IP cameras.

Navigator is designed for hybrid installment of IP camera, video server, IP Fast Dome, and DVRs. Its diverse functions provide the necessary flexibility in managing record storage devices and deliver a comprehensive solution to digital surveillance. Major features of Navigator are listed as followed.

Navigator Main Features

- Record and manage videos from IP H.264/H265/MJPEG cameras and DVRs/NVRs
- Support up to 108 recording channels.
- Support scheduled, continuous, and motion detection recording
- Support two-way audio and audio recording.
- Integrated alarm output management
- eMap live video with alarm snapshots
- iPhone and Android devices support
- IP Fast Dome control and PTZ control
- Digital zoom, ePTZ, and region of interest (ROI) support
- Support video file conversion to AVI/MP4 format
- Easy-to-use calendar and time selections for video playback
- NAV matrix multi-screen and 2x2 split screen
- User Manager for login, device group, and view group permission management.
- Support P2P NVR remote connection.



Copyrights

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Before Using Navigator

The Navigator is a video recording application. Although Navigator supports multiple hard drives recording, when the overwrite setting is enabled, the oldest recorded video clips will be deleted first if the designated storage is full. Should you want logical partitions in your hard disk drive, allocate at least 60 GB (10% reserved space) for each drive.

To change the hard drive setting, click System Settings . Select the hard drive(s) to which you want Navigator to save the recorded videos. It is recommended not to choose the system disk as the destination drive.

ystem Settings									
System Settings	Grouping S	chedule	Record	ding Time Ne	twork Failover				
 □ Drive □ C:\ □ D:\ □ F:\ ▼ T:\ 	98% 9	Space 64.5GB 31.4GE 862.9GE 794.4GE	3	System Re 175 GB	Auto run this applicati Auto sequence after r Original video resolut Auto login when syste Force to enter the rea Low latency mode Enable "Applicati	eboot ion at full si em starts son for bac	creen mode kup and play	back	
✓ System Reser	ved Storage	175	GB		Snapshot Path Snapshot File Prefix D Event Thumbnails Synchronize Time with Language	Numbe		4 Hour	~
Video Reserv	ved Days	30 25	(1 - 365) (1 - 365)	Apply	Language	English			Ý
GUID: 2	women	Stora	ge Calcul	ator)3	NAV ID OF	F v	Re-edit Eve Keyb	oard	ancel

Furthermore, each logical HDD drive should contain at least 10% empty space for storing video data. 6 66-UM-NAV5.0-OE-9

Navigator deletes the oldest files first until it reaches 90% of the logical drive, and it proceeds to the next logical hard disk drive for recording. It is recommended not to use external hard drives and to opt for hard drives with a capacity of 500GB or more. Using smaller capacity drives might lead to insufficient space for overwrite recording, which could affect the recording speed. Please select hard drives with a 7200rpm rotational speed, as this will be beneficial for writing speed.

Some brands of server hosts may not have a physical graphics card, or the environment does not allow the connection of a physical monitor. In such cases, as long as your device has HDMI output, you can install an EDID emulator. This device can simulate the physical monitor Direct3D, and the real-time video will be displayed normally.

- It is necessary to connect a physical monitor or install a virtual EDID emulator, otherwise Direct3D will not work normally, resulting in black screens in real-time and playback videos.
- Please do not connect Virtual EDID emulator and external output simultaneously.
- When using a virtual monitor, the built-in or external graphics card must support Direct3D for the EDID emulator to function.



User Manual

This Navigator user manual is in the PDF format. To access the manual, go to Start \rightarrow All Programs \rightarrow Navigator \rightarrow User Manual. You must install Acrobat Reader or use Google Chrome for opening the manual.

Uninstall Navigator

To uninstall Navigator, select Start \rightarrow All Programs \rightarrow Navigator->Uninstall Navigator. Before you continue, be sure to back up your database, and you can import the database to the new installation. Please see Database Manager in this document for details.

Acronym

- NCC: Navigator Control Center
- VM: View Manager
- NAV: Navigator Corporate
- PTZ : Pan, tilt, and zoom camera
- DVR : Digital video recorder
- NVR : Network video recorder
- HDD: Hard disk drive
- FPS: Frame rate per second
- OSD: On-screen display
- ANPR : PC based number plate recognition system
- LPR : Edge license plate recognition camera

How to Login Navigator

To log into Navigator, open it from the desktop or execute Navigator through the Start menu. For information security considerations, the first time you log in, a warning window will appear, reminding you to use a password that meets the required strength to ensure the security of your system. (Please refer to Chapter 1 for creating user accounts and passwords).



Note: For system default account, enter "admin" and empty as username and password to login.

When logging into the system, a user login dialog box will pop up. Please select "Normal Mode". For advanced usage, there are other login system modes available, such as LDAP and Active Directory (AD) modes.

Login Type	Normal Mode	~
	Normal Mode	
Username	AD Server Login LDAP Login	

User Account Bookmark

Before logging into the system, there is a user account bookmark feature available for easy and quick access to switch between accounts. It supports multiple account memory locations and up to 128 groups can be set.

The username and password need to be created in advance by the admin user administrator. (Please see Chapter 1).

Navigator User Manager 64 bits User Login		
Login Name	1: admin	1
Login Type	2: 1111 3:	
Username	4: 5:	
Password:	6: 7: 8:	
Host Name	9: 10:	
LDAP Base Distinguished Name	11: 12: 13:	
Username Path	14: 15:	
	16: 17: 18:	
Save Profile	19: 20: 21:	

Chapter 1 User Manager

The admin user account has the administrator authority, and can manage various permissions including camera monitoring, playback, setting and other account permissions.

When logging in as the user administrator for the first time, a security warning will pop up, prompting you to create a new password.

	Navigator 5.0	Navigator User Manager 64 bits User Login	
٦		Login Name	1: admin
	Archive Manager	Login Type	Normal Mode
	Database Manager	Username	admin
		Password:	·
Ð	Remote Playback Manager	Host Name	userdnsdomain : 389
	StreamingServer	LDAP Base Distinguished Name	userbasedomain
		Username Path	userDNPath
	Uninstall Navigator 5.0		
R	User Manager	Save Profile	OK Cancel

For the highest user administrator group, the default account is "admin" and the password is empty. To strengthen the password security, the following four conditions must be met when creating a password:

	er Manager 64 bits			
File				
User type :	1:admin	Modify Delete		
No Userr 1 admin 2 Benny	Amount on the accessed The accessed The accessed ModifyUser I.admin Old username : admin	×		
	Old password :		Set password and strengthen account security:	×
Add	Verify password :	Cancel	The password must include 3 criteria out of the followings (1)at least 8 characters(must) (2)letters and digits (3)upper and lower cases (4)special character(1 · \$ · \$ - \$.	
		Account	確定	

Chapter 1.1 Add a User

To add a user, click the Add button. In the Add User Group dialog box, enter the required information. Remember to choose user access level before you press OK.

~
of the

Chapter 1.2 Modify an Existing User

To modify an existing user, choose a user and click the "Modify" button. Here you may change the password of this user.

Jser t	ype :	1:admin Modify Delete
No.	Username admin Benny	Annotation The account can be accessed The account can be accessed
		ModifyUser ×
		Dkd username : Benny Okd password : Image: Constraint of the second se
		New username : Benny New password :
		OK Cancel

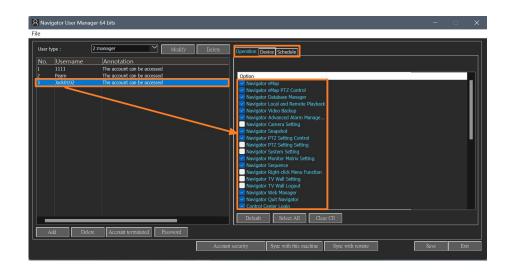
Chapter 1.3 Delete a User

To delete a user, choose a user, press "Delete", and click "OK".

A Navi File	gator User Man	ager 64 bits	
User t	ype :	1:admin Modify	Delete
No.	Username	Annotation	
1	admin Benny	The account can be accessed he account can be accessed	
	DeleteU	ser ×	(
		Do you want to delete this user ? Benny	
		OK Cancel	
	.dd De	lete Account terminated Password	

Chapter 1.4 User Authorization

Features supported by Navigator can be assigned to each user. To enable a feature for a user, click "Operation", and check whichever boxes to which you want the user to have access.



Chapter 1.5 Operation Access Management

Select user type and click on user. Then, click on "Operation" option, please check the required permissions. Then click on "Save" and "Exit" to save the settings.

Note: Please restart the application settings after closing the Navigator software on the NAV&NCC host.

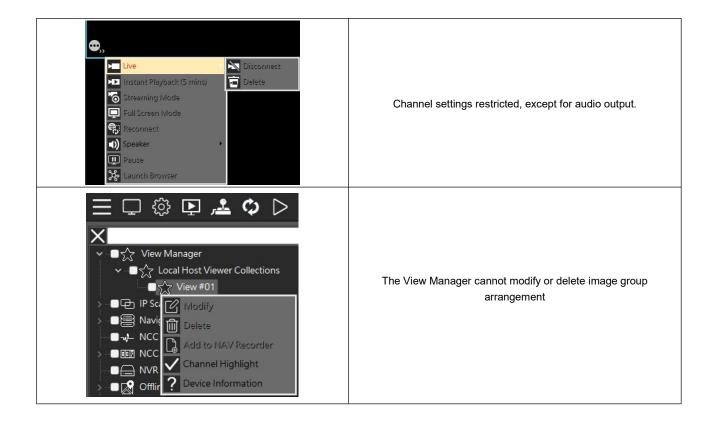


	Function Pe	ermission Icons	
🐑 eMap Manager	Navigator eMap	Navigator Control Center 5.0	Control Center Login Permission
	Navigator eMap PTZ Control		Control Center Alarm Management
🛃 Database Manager	Navigator Database Manager	TVWall	Control Center Image Decoder Function
Playback	Navigator Local and Remote Playback	Mosaic TVWall	Control Center Mosaic TVWall
	Navigator Video Backup	*	Control Center eMap
(6)	Navigator Advanced alarm Management	<u>C</u>	Control Center IPSan
**	Navigator Camera Setting	6	Control Center Device Management Report
0	Navigator Snapshot	O	Control Station Settings
.	Navigator PTZ Setting Control	X	View Manager Login Permission
PTZ Setting	Navigator PTZ Setting Function	4	View Manager System Setting
Ø	Navigator System Setting	₽	View Manager Remote Playback
Ň	Navigator Monitor Matrix Setting	\triangleright	View Manager Synchronous Playback
SEQ	Navigator Sequence	\checkmark	View Manager Video Backup

Add Grown Grown Hoyania Wanta (Yania) of Carena Sta Care Adversed Nam:00 Na for mon Mark Toronal Units Ta Carely Pare	Navigator Right-click Menu Function	<u>.</u>	View Manager PTZ Control
	Navigator TV Wall Setting	SEQ	View Manager Sequence
	Navigator TV Wall Logout		View Manager eMap
\bigcirc	Navigator Web Manager	■ ■ ■ Navigator Stations	View Manager Modify Permissions
×	Navigator The Software Power Down	B 8	import Views for Mosaic TVWall Feature
	-	0	View Manager Alarm Output
	-	í۵	View Manager Snapshot
		X	View Manager Window Close
		-	View Manager Window Minimize

Supplementary Description:

View Manager I	Modify Permissions
 ✓ Iccal Host Viewer Collections ✓ Local Host Viewer Collections ✓ View #01 IP Scan Collections Navigator Stations NCC Counter Collections IM NCC Counter Collections INR station Collections INR station INR station	Custom groups cannot be modified or deleted
Image: Control Image: Control Image: Control Image: Con	Locked when dragged to the canvas (to prevent layout changes).
Image: Constraint of the	Unable to switch channels (for example, switching between CH1 and CH2).



Chapter 2 System Settings

In System Settings , you will find a number of tabs that allow you to change the configurations of this software. Configure the settings to fit your requirements.

Drive	Free	Space		System Re	Auto run this application	n when sys	tem starts		
C:1			Auto sequence after re	boot					
D:\	98%	931.4GE	3		Original video resoluti	on at full scr	een mode		
F:\	14% 1	862.9G	B		Auto login when system	m starts			
Τ :\	23% 2	794.4G	В	175 GB	Force to enter the reason for backup and playback Low latency mode				
					Enable "Application	ons" after rel	boot		
					Snapshot Path Snapshot File Prefix	T:WAN	/Snapshof\		
					Event Thumbnails	Number	of	4	~
					Synchronize Time with		1 ~	Hour	
System Re:	served Storage	175	GB		Language	English			~
Video Res	erved Days	30	(1 - 365) Apply					
🕑 Image Res	erved Days	25	(1 - 365)					
RAID System Monitor Storage Calculator									
		Stora	age Calci	llator	System Management	E C P	Re-edit Eve	nt lext	
					NAV ID OF		Kevb	oard	

Auto run this application when system starts: Launch Navigator automatically on system startup.
 Note: When additional NCC is installed, you can also set the automatic start time from here or match it with the AI Engine watchdog time.

Startup sequence time specification:

- 1. NAV > NCC
- 2. AlEngine = NAV or AlEngine < NAV

uto login delay time after system starts	×	Setting
Set auto-login delay time after the system starts		NAV Set OPEN V NAV Set OPEN Trigger Time 20 seconds
		NCC Set OPEN V NCC Set OPEN Trigger Time 30 seconds
		AlEngine Set OPEN AlEngine Set OPEN Trigger Time
		20 seconds
		Clear Registration Info Clear Files And Auto Open Apps
	Apply Cancel	Exit

- Auto sequence after reboot: Perform group sequential display after a system reboot.
- Original video resolution at full screen mode: Use original video resolution in full screen mode.
- Auto login when system starts: Log in to Navigator automatically when the system starts.
- Force to enter the reason for backup and playback: Check to enter reasons for backup and playback.
- Low latency mode: When CPU load is too high, check this option to make the video smoother.
- Enable "Applications" after reboot: Unique software or custom tools, automatically enabled when the Navigator main program is opened.
- Snapshot Path: Set the path for snapshot storage.
- Snapshot File Prefix: Add the prefix character of the file name.
- Event Thumbnails: Enable screenshots of alert events, such as: Al license plate, traffic behavior, face recognition screenshots, etc.
- Synchronize Time with: Automatically synchronize with the computer clock.
- Language: Choose your language from the drop-down list.
- GPU Decode and Display: GPU display decoded output.
- Smart anti-aliasing: Smart channel image edge smoothing.

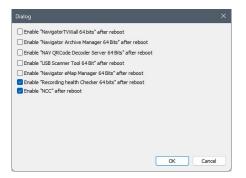
- Memory Management: Memory saver management.
- NAV ID: 931 Keyboard ID, default is OFF.
- System Reserved Storage: Click on Circular Recording box to enable, and the maximum hard disk space can also be set.
- Video Reserved Days: Select the number of days to retain recordings.
- Image Reserved Days: Select the number of days to retain screenshots (Below the snapshot path).
- Raid System Monitor: Can monitor the disk array status, support LSI MegaRAID, Intel® Matrix RAID.
- System Reboot: Check and set the time you want the system to reboot every day.

Note:

- 1. It is recommended that system drive is not set as video destination drive.
- 2. Snapshot Path Please specify C: Drive other than the system hard drive and create a new folder for alarm snapshot storage.
- 3. Snapshot Path is in C drive and does not support alarm screenshot function. Attention!

Chapter 3 Programming Tool

Provide unique software tools, users can decide whether to automatically enable below functions after the Navigator main program is turned on.



- Navigator TVWall 64 bits : Video decoder can be used as a virtual matrix system in large monitoring systems (Virtual Matrix System); Check on "NAV NETStreamingType" box, you can pull the Navigator image directly into the group for monitoring and construct the entire large surveillance TV wall. When Navigator is opened, video decoder TVWall will be enabled automatically.
- Navigator Archive Manager : You can back-up the PC image of Navigator Software to the network storage device. When Navigator is opened and this option is enabled, the archive manager will be automatically opened.
- NAV QRCode Decoder Server : A new program will be launched soon. When Navigator is turned on and this option is enabled, the QRCode server will be automatically connected.
- USB Scanner Tool : Handheld scanners support 1D and 2D barcodes, and bring more rapid productivity and performance to the retail industry. They are suitable for a wide range of applications in retail, healthcare and post offices. When you open Navigator and check this option will USB Scanner Toolautomatically.
- Navigator eMAP Manager When you open Navigator and this option is checked, the eMAP Manager will be automatically enabled.
- Recording health Checker : If the power is off due to abnormal power failure, the image may not be stored or the data may be damaged. If this option is checked, the recording health checker tool will be automatically enabled. Support manual custom time check and generate health status report
- NCC : When opening Navigator, check this option will automatically activate Navigator Control Center.

Recording I	nealth Check	ker 64 bits	;	-		×
Start Year End Year	2024 2024	Month Month	3 3	Day Day	24 25	
Low CPU Us						
				OK	Car	ncel

- Start Year : Check start time year/month/day.
- End Year : Check endtime year/month/day
- Low CPU Usage Mode : Scan all, regardless of whether there are files in the video file folder or not.
- Make Daily Report : Provide a report after the scan is completed

Chapter 3.1 GPU Graphics Decode Setting

With hardware advancement in high-resolution videos, in addition to bringing better picture quality, it also brings more CPU usage. The GPU decoding method enables the system to perform multitasking operations while viewing CCTV. At present, GPU decoding supports NVIDIA 1030-level graphics cards and Intel® 530-level built-in displays. It also supports GPU hardware decoding functions for both NVIDIA graphics cards and built-in Intel displays. When the host has both NVIDIA graphics cards and motherboard Intel® built-in, Navigator optimizes resources based on system usage to achieve more channels or high-frame devices.

System Settings				System Memory and Reboot Setting
C:\ 46% D:\ 64% F:\ 17%	Space Sy 464.5GB 9314 GB 1862.9GB	g Time Ne rstem Re 279 GB	work Fallover Auto run this application when system starts Auto sequence after reboot Original video resolution at full screen mode Auto login when system starts Force to enter the reason for backup and playback Low talency mode	System Rebool Seting 59 Bystem The limit of program memory usage 65 % "Wakigator 64 Bits" The limit of program memory usage 665 MBMogatoly "Wakigator MSteeming Sener 64 Bits" The limit of program memory usage 244 MBMogatoly "Wakigator eMap Manager 64 Bits" The limit of program memory usage 244 MBMogatoly "Wakigator eMap Manager 64 Bits" The limit of program memory usage 244 MBMogatoly "Devir reboot after fits first of application reboot 10 Times
System Reserved Storage Video Reserved Days Image Reserved Days	279 GB 30 (1-365) 30 (1-365)	Apply	bite "Applications" after reb Database Management Snapshot Path	System Limit Setting 99 % □ Limit max CPU urage 99 % □ The limit of dak apeus length 5 ⊂ counts □ The limit of dak apeus length 5 ⊂ counts □ The limit of dak apeus length 5 ⊂ counts □ The limit of dak apeus length limit of the network packets 5 ⊂ packets □ The limit of network 0 forwout/put 95 % □ "Navingator Playback Manager 64 Bits" The limit of program memory usage 3072 % □ "Navingator Tealpool Kanager 64 Bits" The limit of program memory usage 3072 % ■ The limit of networks 0 The limit of program memory usage 3072 % ■ "Navingator Tealpools" Time limit of program memory usage 3072 %
RAID System Monitor GUID: B9A985A9-EB82-	Storage Calculate		System Management Re-edit Event Text NAV ID OFF Keyboard OK Cancel	Select Function Display hardware graphics acceleration (default) Terror of hardware graphics acceleration GPU decode and databar, decode high high priority, GPU decode high high priority, GPU decode high high high high high high high hig

- Turn Off Graphics Hardware Acceleration Turn off Direct3D software decode acceleration, GDI traditional graphics mode display, and support old type without Direct3D graphic card.
- Graphics Hardware Acceleration Display(Default) Turn on CPU software decode acceleration, Direct3D graphic mode display, and supports new Direct3D graphic card.
- GPU Decode And Display, Display High Priority Turn on GPU hardware decode acceleration, graphic display is prioritized.
- GPU Decode And Display, Decode High Priority Turn on GPU hardware decode acceleration, decode display is prioritized.

Note: If a user purchased a new NVIDIA graphics card, they need to update to the latest version of Windows 10. Please note that not all versions can be directly upgraded to the latest one. If Windows Update does not provide the latest version continuously, it is recommended to seek technical assistance from the original manufacturer to reinstall the latest operating system version.

Note: Standard Video Display Card with Windows Version					
NVIDIA Chip Architecture	Windows 10&11	NVIDIA Display Card Model (Support super*Ti)			
Pascal Architecture Graphics Card	Version 1607 or later	10 Series:GT1030,GTX1050,GTX1060,GTX1070, GTX1080,TITAN X/XP			
		16 Series:GTX1650&1660			
Turing Architecture	Version 1709 or later	20 Series:RTX2060&2070&2080,Titan RT			
Graphics Card		Quadro Series:RTX 4000,5000,6000,8000			
		Tesla Series: Tesla T4			
Ampere Architecture Graphics Card	Version 1803 or later	30 Series:RTX 3050,3060,3070,3080,3090			
Ada Lovelace Graphics Card	Version 22H2	40 Series: RTX 4060,4070,4080,4090			

Note: If you want to experience more real-time video channels and high-definition video cameras, please upgrade your graphics card and physical memory. The recommended NVIDIA graphics card memory is 4GB or more, and recommended physical memory is 32GB or more.



Chapter 3.2 Memory Protection and Watchdog Setting

When a computer system has multiple programs running at the same time, the system often divides the main memory into several areas and assigns them to each program. In order to avoid mutual interference when the program is running, the Navigator watchdog memory protection control mode must be used to limit the activity in the memory area of each program. This is the memory protection.

system Memory and Reboot Setting					
System Reboot Setting					s
System The limit of program memory usage			95	+	%
"Navigator 64 Bits" The limit of program memory usage			3072	+	MB/Megabytes
"Navigator MStreaming Server 64 Bits" The limit of program i	memory i	usage	2048	-	MB/Megabytes
"Navigator Archive Manager 64 Bits" The limit of program me	emory usa	ige	2048	+	MB/Megabytes
□ "Navigator eMap Manager 64 Bits" The limit of program men	nory usag	je	2048	+	MB/Megabytes
Power reboot after the times of application reboot			10	+	Times
Instant ~					
System Limit Setting					
Limit max CPU usage			95	*	%
The limit of disk queue length			5	•	counts
The limit of disk response time			200	•	ms
The limit of disk active time in percentage			85	•	%
The output queue length limit of the network packets			5	•	packets
The limit of network IO throughput			85	•	%
			3072	-	MB/Megabytes
"Navigator Playback Manager 64 Bits" The limit of program n	nemory u	sage		-	
"Navigator Remote Playback Manager 64 Bits" The limit of pr	rogram n	nemory usage	3072	-	MB/Megabytes
Playback					
Playback Time(Hour)			Disable	~	
Select Function					
Display hardware graphics acceleration (default)	~	Smart anti-a	liasing		×
System reboot					
System reboot	Rebo	ottime	02:30		Ţ

Memory Protection Setting:

- System memory use limit: preset is 80%
- "Navigator 64 Bits" memory use limit: NVR Software preset max limit is 4096MB.
- "Navigator MStreaming Server 64Bits" memory use limit: Streaming Server, preset max limit 2048MB.
- "Navigator Archive Manager 64Bits" memory use limit: Archive Manager, preset max limit 2048MB.
- "Navigator eMap Manager 64Bits" memory use limit: eMap, preset max limit 2048MB.
- Restart the power after restarts the software repeatedly: restart the computer after repeated back-end Al Engine server disconnection detections.

Watchdog detection reopening mechanism:

- Instant : When the system detects an abnormality, the software restarts immediately.
- Reboot at system reboot time: When the system detects an abnormality, the software automatically restarts at preset 00:00 night time.

Host status database

- Limit max CPU usage: Set CPU usage to 80%
- Disk queue length limit: preset limit5 counts
- Disk response time limit: preset max limit200ms
- Disk active time percentage limit: preset max limit 85%
- Network packets output queue length limit: preset max limit 2 packets
- Network IO throughput limit: preset max limit 70%
- "Navigator Playback Manager 64 Bits": preset max limit 2048MB.
- "Navigator Remote Playback Manager 64 Bits": preset max limit 2048MB.

Note : When the system detects an abnormality 3 times consecutively, and still detected within 10 minutes, the computer will restart.

Chapter 3.3 Database Management

When NCC is not the big data central control host, please disable sending the screenshots and AI information from the NAV database management to NCC to prevent NCC from receiving a large amount of information that could lead to database crashes.

Drive Free Space System Re Auto run this application when system starts Auto sequence after rebot Original video resolution atfuil screen mode Original video resolution atfuil screen mode D 1 4484 903 Original video resolution atfuil screen mode D 1 4484 903 Original video resolution atfuil screen mode D 1 4484 903 Original video resolution atfuil screen mode D 1 4484 903 Original video resolution atfuil screen mode D 1 4484 903 Original video resolution atfuil screen mode D 1 6484 903 Original video resolution atfuil screen mode D 1 6484 903 Original video resolution atfuil screen mode D 1 6484 903 Original video resolution atfuil screen mode D 1 6484 903 Original video resolution atfuil screen mode D 1 6484 903 Original video resolution atfuil screen mode Stabase Management Stabase Management Stabase Management Chausers Video Reserved Days 30 Original video resolution Navio Offer Management Re-edit Event Text NcC Database Path Chausers/Video Chausers/Video NCO Chausers Video Path	System Settings System Settings Grouping	Schedule Recor	rding Time Net	work Failover	
Snapshot Flath TNA/Snapshot Snapshot Flath Townorize Time System Reserved Storage 279 G Send the All Information to NCC Send the All Information to NCC NA/D Reserved Days 30 (1 - 365) System Management Re-edit Event Text C:/parvuers/Navigator Clent\ NULP Torm off'r the database path, please doe NAV first and open	C:\ 46% D:\ 64% F:\ 17% 1	464.5GB 931.4GB 862.9GB		Auto sequence after reboot Griginal video resolution at full screen mode Auto login when system starts Force to enter the reason for backup and playback Low latency mode	
Troud of Storm Mollmont Storage Calculator System Management Re-edit Event Text NAV ID OFF Knithbaard To modify the database path, please dose NAV first and open	 ☐ Video Reserved Days ☑ Image Reserved Days 	30 (1 - 365) 30 (1 - 365))	Snapshot Path INNV/Snapshott Snapshot File Prefix Image: Snapshott Event Thumbnails Number of 3 Synchroniza Time Image: Snapshott English Image: Snapshott C:travusers/DM330 NCC Database Path C:travusers/DM330 NCC Database Path	×
		Storage Calcu	ilator	System Management Re-edit Event Text NAVID OFF Keinbord To modify the database path, please dose NAV first and open	

Chapter 4 Navigator Login

From the Navigator main menu, please click on desktop with button to access the Navigator monitoring screen.



Chapter 4.1 How to Add a Device to Navigator

The Navigator supports IPScan protocol. IPScan protocol is convenient for discovery of NAV, NVR/DVR, and IP cameras in the network.

Chapter 4.1.1 Add a New Device

To add a new device, select any channel and click the "Properties" icon 2. Click the "Find Device" button to open IPScan, a tool that helps you find all devices in your network. Choose the device you want to use and press "Close", and you will see a prompt window asking "Do you want to auto set the IP/DNS and the host post?" Click "Yes", and the application will automatically complete all the settings for you.

Activate this devic					
Jame #0	001 Z P				
Channel Location					
Device Type IP	Camera v	Detect		1.1.1	
Cannel Ca	am 001 🗸 🗸	Setting	and a second sec	in a calle of the	
	Auto import NVR	Import	Aller and a second		
Streaming Mode D	ual Streaming Mode for the C	hannel ~			
Record Mode R	ecord dual streams \sim	1 FPS 🔍			
letwork			THE REAL	SC. SC. SC. SP. HOUSE	
P/DNS	192.168.26.169			I II II II I I MAR ESC I	
ITTP Port (ex. 80)	80	X	Find Device	Video	
Drivif Port (Optional)	80		Assign the Recording Disk		
TTPS Port (ex. 443)	443				
rideo Port	554		Auto switch the audio	Alarm Management	
Jsername	admin		ONVIF	ePOS/OSD	
assword		0	Device Type: IP Cam		
amera/485 ID	1	~	Alarm Input (DI): 1	ANPR Group Setting	
			Relay Output (DO): 1	Object Counting	
Synchronize Time wit	th PC	Apply		Facial Recognition	
Cow bit rate client and	d server connection 0.	05 FPS 🔍		Advance:Privacy Mask/OSI	

The configurable settings in Properties are listed as followed:

- Find device: IPScan scans IP network area, all Navigator/DVR/NVR/IPCAM and other devices.
- Video: After inputting device IP setting, click on "Video" to see the live image preview.
- Activate this device: Check or uncheck to enable or disable the camera.
- Name: Camera name displayed on top of the live video channel.
- Location: Location of the camera installed.
- Device type: Please select "IP Camera" for the camera, select "DVR/NVR-H.264" for DVR/NVR device, or click "Detect" to automatically adjust the settings..
- ONVIF: Most of the ONVIF devices are communicated via HTTP port 80. If the target ONVIF is not communicated by HTTP port 80, our NAV recorder provides extra ONVIF port for communication purposes.
- Streaming Mode: It can select single or dual stream output with two different bit rate image.
- Record mode: It can select main stream/sub stream recording or dual stream, and low bitrate recording mode.
- Assign recording mode: Assign different hard disk for recording, channel distribution mode recording.
- IP/DNS (**required**): IP address of the device.
- HTTP Port: HTTP port number of the device.
- Video Port: DVR's video port number/IP camera's RTSP port number.
- Username
- Password
- Image size: The source video size of the device.
- Camera/485 ID: IP Fast Dome RS-485 ID.
- Synchronize Time with PC: Synchronize time with the local PC.
- Low Bitrate client server connection: When check, save live image bandwidth of IP channel connected to HTTP Port.
- Alarm Management: Adjust input and output for alarm management setting.
- ePOS/OSD: Set up connected ePOS/OSD device.
- ANPR Group Setting: Can add license plate's allowed list and denial list.
- Object counting: Set up object counting function.
- Facial recognition: When a face is detected, will take screenshot of detected face.
- Reboot device: Re-start the device.
- Launch browser: Device web page setting.

Note: RS-485 camera ID (1 to 128) must match the ID setting of the IP Fast Dome. The software may not control the PTZ movement if the ID setting is incorrect.

Once you complete the above settings, youcan click on "**Video**" to test if the device is working properly. For information of the default username and password, please see Appendix for details.

Chapter 4.2 Set up Hard Disk Recording

When the system is a non-RAID hard disk, you can select different channels to record on other hard disks. The purpose is to reduce the recording load of a single hard disk, or to save video of important channels.

🔿 Assigned l	y System		Select Channel	Channel Name Select All / Select None
Assigned b	by User			#004 Cam 004
				#005 Cam 005
Select C	Drive Number	Free Space		#006 #006 S 25
0	F	328.4 GB		#007 Cam 007
	5			#010 Cam 010
\sim	т	314.1 GB		#011 Cam 011
				#013 F M
				#014 Cam 014
				#015 Cam 015
				#037 Cam 037

Note: By default, the system will only move on to the next disk after the disk recording space is full.

Chapter 4.3 Device Type

For video streaming, there are several device types to choose from:

Device Type	Description
H.264 AVC IP Mini Dome	D1 H.264 IP PTZ camera stream
IP Camera	IP Camera with H.264/H.265 stream
DVR/NVR-JPEG	DVR/NVR low bandwidth snapshot stream
DVR/NVR-H.264	DVR/NVR H.264 stream
DVR 2B/2C Series	DVR 2B/2C series stream
AHD/DHD Series	AHD/DHD DVR series stream
Third-Party AHD/DHD Series	Other brand AHD/DHD DVR series stream
NAV Live Streaming	NAV live image streaming
NAV USB/P2P Live Streaming	USB camera or NAV P2P live streaming
NAV-JPEG	NAV JPEG stream
NAV-JPEG Poster	NAV-JPEG Poster
Low Bitrate IP Camera	Low bandwidth I frame camera connection
Low Bitrate DVR Camera	Low bandwidth I frame NVR/DVR camera connection
Snapshot Device	Low bandwidth JPEG snapshot stream
Manual	Manual input of camera URL stream
Third-Party ONVIF Camera	Other brand ONVIF protocol stream
Manual RTSP	RTSP image stream
Screen Capture	Screen capture streaming features
IPCamera HTTPS	IPCamera HTTPS series streaming
NVR/DVR-H264 HTTPS	NVR/DVR-H264 HTTPS series streaming
Multi-Sensor IP Camera	Multi-Sensor streaming
Third-Party DVR/NVR	Other brand DVR/NVR series models streaming

Chapter 4.3.1 NAV IPCAM HTTPS Connection Method

1. IPCAM IE Web Login

Network-> HTTPS Service ->-> Check "Enable"->Create a certificate

🗇 🔲 🕒 AI Z7 IPCAM											
← C A ▲ 주 #	そ全 192.168.3.61:600,	/setup.htm 🖉	a‰ A [%] ☆	8 o 💡	0 0	D 👩	۰۰۰ 🦻	-	System Vi	deo Controls	Network SmartEvent
					Live L	anguage	Logo	ut	General	Setup > Network	> HTTPS Service
System Vide	o Controls	Network	SmartEvent	Notification	Mainte	enance]	LPKG		General IPv6	HTTPS Service	Enable O Disable
General	Setup > Network >	HTTPS Service						_	HTTP Service	HTTPS Status	Disable
General IPv6	HTTPS Service	Enable Disab	le						RTSP	HTTPS Port	443
HTTP Service	HTTPS Status	Disable							HTTPS Service	Certificate Status	Active
RTSP	Certificate Status	Not installed							Multicast		
HTTPS Service	Method	Create self-signed ce	rtificate v							Method	Create self-signed certificate
Multicast	Country	TW							IP/MAC Address Filtering	g Country	TW
IP/MAC Address Filtering	State or province	Taiwan							DDNS	State or province	Taiwan
DDNS	Locality	Taipei							Push Service	Locality	Taipei
Push Service	Organization	IPCAM									10000
	Organization Unit	IPCAM								Organization	IPCAM
	Common Name	www.example.com								Organization Unit	IPCAM
	Validity	365								Common Name	www.example.com
		Create a certificate.								ОК	Remove a certificate.

2. NAV IPCAM HTTPS Connection Method Camera Settings->Device Type ->IPCam HTTPS

Display/Record Activate this device			Preview	
Vame	Cam 002			
Channel Location				
Device Type	IP Camera V	Detect		
Channel	H.264 AVC IP Mini Dome	Setting		
	IP Camera DVR/NVR-JPEG DVR/NVR-H264	Import		
Streaming Mode	DVR 2B/2C Series AHD/DHD Series	Channel 🗸		
Record Mode	Third-party AHD/DHD series NAV Live Streaming NAV USB/P2P Live Streaming	1 FPS 🔍		
letwork	NAV-JPEG			
P/DNS	NAV JPEG Poster Low Bitrate IP Camera			
HTTP Port (ex. 80)	Low Bitrate DVR Camera	X	Find Device	Video
Onvif Port (Optional)	Third-party IP Camera		Assign the Recording Disk	
HTTPS Port (ex. 443	Manual KIOF		-	
/ideo Port	Screen Capture IPCam HTTPS		Auto switch the audio	Alarm Management
Jsemame	Multi Sensor IPCam		ONVIF	ePOS/OSD
Password	Third-party DVR/NVR	0	Device Type: IP Cam	
Camera/485 ID	1	~	Alarm Input (DI): 1	ANPR Group Setting
Samera/4051D				Object Counting
			Relay Output (DO): 1	
Synchronize Time	with PC	Apply		Facial Recognition
	and server connection	0.05 FPS 🔍		Advance:Privacy Mask/OSD

Chapter 4.4 ONVIF Settings

To use RTSP streaming, first you need to set up the ONVIF protocol:

ONVIF			Video Settings		
Video Source	vsc1		IP/DNS	192.168.3.67	
Codec	H264	~	RTSP Port	554	
Resolution	3840X2160	~	Username	admin	
Profile	profile1	~	Password	******	
Protocol	RTP/TCP 554 port (default) 🗸	Brightness = 50 (0 ~ 100)		
Frame Rate		~	Contrast = 50 (0 ~ 100)		
Bit Rate=12288(64~14336)					
Quality = 20 (20 ~ 80)			Saturation = 50 (0 ~ 100)		
			Sharpness = 45 (0 ~ 100)	· · ·	
RTSP Keep Alive					Apply

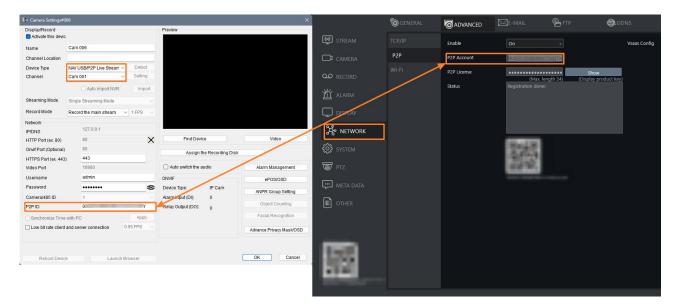
- Codec: H.264&H.265 mode, JPEG mode.
- Resolution: Live image picture resolution.
- Profile: A user can select different streaming profiles such as H.264&H.265 1080p/480p or MJPEG 480p/CIF.
- Protocol: Streaming protocol such as RTP/UDP, RTP/TCP, or RTP/TCP/HTTP.
- Frame rate: Live image frame rate.
- Bitrate : Image transmission bitrate.
- Quality: Live image picture quality.
- RTSP Keep Alive: The function derived from the disconnection of the traditional type cameras (the current default does not need to be checked).

Note: ONVIF settings are only available for our ONVIF camera.

Chapter 4.4.1 NVR/DVR P2P Connection

To use the NVR P2P connection, open the NAV camera setting option, select "NAV USB/P2P Live Stream," open NVR/DVR -> Network settings, and paste or enter the P2P account into the NAV P2P ID option.

- 1. P2P Account Number
- 2. Username and Password



Chapter 4.5 Find Device

IPScan utility can scan through all IP address in the LAN to locate devices.

lp												
#	Name		IP Address	Subnet Mask	Gateway	Port	Assign	MAC Ad	dress	Mode .	Name	
1	Z:		192.168.76.104	255.255.255.0	192.168.76.1	4026	DHCP	00	-	698	IP Address	
2	Z!		192.168.77.181	255.255.255.0	192.168.77.1	80	Static IP	00	1	645		
3	N	4	192.168.5.205	255.255.255.0	192.168.5.254	80	Static IP	00)	42	Subnet Mask	
4	N	4	192.168.5.214	255.255.255.0	192.168.5.254	80	Static IP	00	4	42		
5	н		192.168.50.235	255.255.255.0	192.168.50.1	80	Static IP	00	,	5	Gateway	
6	N	in	192.168.26.49	255.255.255.0	192.168.3.254	80	Static IP	00	3	27	Port	
7	a		192.168.26.236	255.255.255.0	192.168.26.254	80	Static IP	00	5	170	-	
8	YI		192.168.26.8	255.255.255.0	0.0.0.1	8080	Static IP	d-	öf	9995		
9	IF		192.168.76.135	255.255.255.0	0.0.0	80	DHCP	00	5	42	OStatic ODHCP	
10	cr	d	192.168.76.101	255.255.255.0	0.0.0.0	80	DHCP	00	4	170	PPPoF Account	0
11	Z!		192.168.26.160	255.255.255.0	192.168.26.154	80	Static IP	00	1	641		
12	N	4	192.168.5.207	255.255.255.0	192.168.5.254	80	Static IP	00	7	42	PPPoE Password	
13	N	4	192.168.5.215	255.255.255.0	192.168.5.254	80	Static IP	00	5	42		
14	P)		192.168.26.150	255.255.255.0	192.168.26.254	80	Static IP	00	9	720		
15	N	4	192.168.5.217	255.255.255.0	192.168.5.254	80	Static IP	00	1	42	Authentication	
16	N	4	192.168.5.209	255.255.255.0	192.168.5.254	80	Static IP	00	5	170		
17	N	4	192.168.5.212	255.255.255.0	192.168.5.254	80	Static IP	00	2	42	Username	
18	IF	203	192.168.26.203	255.255.255.0	192.168.26.254	80	Static IP	00	2	42	Password	
19	N _	.4	192.168.5.202	255.255.255.0	192.168.5.254	80	Static IP	00	2	42	Pasaword	
-										-	Stop scanning	Apply
tatus	s:										HTTPS Port	443
в											Firmware Update	Batch IP Setting
											Set as Default	Time Adjust
												SDOP
											Other	Check

Select a device in IPScan and click "Close" to set up the device. All the device information such as IP address and port number will be automatically detected by Navigator.

You can also manually add devices of IP Fast Dome, IP camera, video server, or DVR.

Note: IPScan can only work under a LAN environment and does not support an Internet environment.

Chapter 4.5.1 How to Change Device Names in IPSCAN

Search for the desired device and mouse click on it. After the selected state appears, enter a new name for the device, tick on "Authentication" box and enter the account username and password to apply. The device name should be updated afterwards.

lp											
#	Name		IP Address	Subnet Mask	Gateway	Port	Assign	MAC Address	Mode	Name	IPCAM-NAME
40	1	1.5	192.168.10.21	255.255.255.0	192.168.10.254	2180	Static IP	and the owner of	246	IP Address	192, 168, 26, 160
41	,	1	192.168.26.8	255.255.255.0	0.0.0.1	8080	Static IP	PROPERTY.	9995	IF Address	192.100.20.100
42	F		192.168.26.13	255.255.255.0	0.0.0.1	8080	Static IP	al in the state	9995	Subnet Mask	255.255.255.0
43	F	1072	192.168.26.19	255.255.255.0	192.168.26.18	80	Static IP		083		
44	1	F	192.168.26.23	255.255.255.0	192.168.26.18	80	Static IP	0007-0007-1	480	Gateway	192.168.26.154
45	2	Des .	192.168.26.25	255.255.255.0	192.168.26.18	80	Static IP	OUT ME SHOT	681	Port	80
46	r	-	192.168.26.49	255.255.255.0	192.168.3.254	80	Stouc IP	00070240003	27	1 200	1 <u></u>
47	F	1.000	192.168.26.84	255.255.255.0	192.168.26.254	80	Static IP	STATES OF TAXABLE PARTY.	220		
48	r	100	192.168.26.99	255.255.255.0	192.168.26.254	80	Static IP	marks weak	341	O Static O DHC	
49	F	E)	192.168.26.114	255.255.255.0	192.168.26.254	80	Static IP	6699-962-7	612	PPPoE Account	
50	>	time (b)	192.168.26.127	255.255.255.0	192.168.26.254	80	Static IP	Station Name	1016	PPPOL Account	
51	F	1000	192.168.26.150	255, 255, 255, 0	192.168.26.254	80	Static IP	DOOR COMPANY	720	PPPoE Password	
52	F	1000	192.168.26.154	255.255.255.0	192.168.26.254	80	Static IP	storth 1996au	670		
53	;	<	192.168.20.155	255.255.255.0	192.168.26.254	80	Static IP	DOOR, DOOR, 2	590		
54	F	1	192.168.26.156	255.255.255.0	192.168.3.254	100	Static IP	mark scales.	670	Authentication	
55	;	R 70 S	192.168.26.159	255, 255, 255, 0	192.168.26.254	80	Static IP		517	Authenucauon	
56	IPCAM-N	IAME	192, 168, 26, 160	255.255.255.0	192.168.26.154	80	Static IP	0 1	641	Username	admin
57		192	192.168.26.163	255.255.255.0	192.168.26.254	80	Static IP		478	Password	
58	28440	and the	192.168.26.165	255.255.255.0	192.168.26.254	80	Static IP	DOOTH SHOEND	590	Password	
-									-	Refresh	Apply
tatus	:			signment: Static							ort 443
07/0	DK		Versio	n: 9.0.001.2262						Firmware Update	Batch IP Settin
										Set as Default	Time Adjust
											SDDP
										Other	Check

Chapter 4.5.2 Change the Device IP/HTTP/HTTPS Port Number in IPSCAN

Search for the desired device and mouse click on it. After the selected state appears, please modify the IP address, subnet mask, gateway, and HTTP/HTTPS port. Tick on "Authentication" box and enter the account username and password to apply. The device IP address should be updated afterwards.

Name	IPCAM-NAME
IP Address	192.168.26.160
Subnet Mask	255.255.255.0
Gateway	192.168.26.154
Port	80
Static OD PPPoE Account PPPoE Password	HCP OPPPOE OONV
PPPoE Account PPPoE Password Authentication	
PPPoE Account PPPoE Password Authentication Username	
PPPoE Account PPPoE Password Authentication	

Chapter 4.5.3 Update Device Firmware in IPSCAN

Search for the desired device and mouse click on it. After the selected state appears, click on "Firmware Update" and wait for 30 seconds or more until a message displayed update is successful.

- Use Encrypt File: Whether to select the encrypted firmware. (Please refer to the device provided encrypted firmware version.
- Device type:
- Camera: Camera firmware.
- Al: Edge front-end camera firmware.
- Configure Parameter: Export camera settings.

			Authentication	
Username	admin	Use encrypted file	Username	
Password	•••••	Camera ~	Password	
Select 1 Items t	o Update	Camera Al Configure Parameter	Refresh	Apply
			HTTPS Port	443
			Firmware Update	Batch IP Settin
			Set as Default	Time Adjust
			-	SDDP
		Start Exit	Other	Check

Chapter 4.5.4 Batch IP Setting in IPSCAN

Search for the desired device, press "CTRL" on the keyboard to select the N devices, click on "Batch IP Setting", and wait for 30 seconds or more until a message displayed update is successful.

- DHCP: Automatically assign a dynamic IP address.
- Assign Username and Password At First Time Out of Box: The account password of the device is restored to its initial value.
- Login the Device after Password Creation: Enable the camera authentication.

itch IP Setting		Name	IPCAM-NAME
Set Property		IP Address	192. 168. 26. 160
🔽 Name	IPCAM-NAME	Subnet Mask	255.255.255.0
Marrie		Gateway	192.168.26.154
🛛 IP Start From	192.168.26.160	Port	80
😒 Subnet Mask	255.255.255.0		
Gateway	192.168.26.154	Static ODHCP	
HTTP Port No.	80	PPPOE Account	
🗌 Assign Usernam	e And Password At First Time Out C	Authentication	
Login The Device	After Password Creation	Username	
Username		Password	
Password		Refresh	Apply
Select 1 Items to Upo	late	HTTPS Po	rt 443
		Firmware Update	Batch IP Setting
		Set as Default	Time Adjust
		Set as Default	Time Adjust

Chapter 4.5.5 Restore a Device to its Default Settings in IPSCAN

Search for the desired device and mouse click on it. After the selected state appears, click on "Set as Default", and wait for 30 seconds or more until a message displayed update is successful.

Set As Default		×	PPPOE Account	
Username	admin			
Password	•••••			
Select 1 Items to Update	•		Username	
			Password	
			Refresh	Apply
			HTTPS Port	443
			Firmware Update	Batch IP Setting
			Set as Default	Time Adjust
			-	SDDP
	Start	Exit	Other	Check

Chapter 4.5.6 Enable or Disable the SDDP Function in IPSCAN

Search for the desired device and mouse click on it. After the selected state appears, click on "SDDP", and wait for 30 seconds or more until a message displayed update is successful.

Username	admin	Authentication Username	
Password	Pass1234	Password	
SDDP	Enable SDDP Broadcast	Refresh	Apply
Select 1 Items to Upo	late	HTTPS Port	443
		Firmware Update	Batch IP Setting
		Set as Default	Time Adjust
	Start Exit		SDDP
		Other	Check

Chapter 4.6 Alarm Input Management

Navigator supports a wide range of alarm inputs, which may be different according to various camera models:

Alarm Input Management	Alarm Output (DO)	
Remote Digital Input	Play Sound	
Remote Motion/Tripwire Detection	Send E-mail	
Remote Tamper Detection	PTZ Preset Recall	
Remote Audio Detection	📃 🔲 Signal Digital Output	
External IO Device	Alarm Full Screen	
Motion Detection	Post-alarm Record	
NAV CGI Triggering	Pre-alarm Recording	
Video Loss Detection	Advanced Alarm DO	
	Alarm ACK	
	4	• •
Options	Options	

Alarm input management	Description
Remote Alarm In	If the camera supports digital input, once triggered, Navigator shall be notified.
Remote Motion/Tripwire Detection	If camera supports motion/tripwire detection, once triggered, Navigator shall be notified.
Remote Face Detection	If camera supports face detection, once triggered, Navigator shall be notified.
Remote Tamper Detection	If camera supports tamper detection, once triggered, Navigator shall be notified.
Remote Audio Detection	If camera supports audio detection, once triggered, Navigator shall be notified.
External IO device	If external IO is use, Navigator shall be notified.
Motion Detection	This is local Navigator motion detection setting.
Nav CGI Triggering	Navigator CGI triggering
Video Loss Detection	The navigator image has no signal detected, if channel suddenly video loss, navigator shall be notified.
License Plate Recognition Detection	Navigator AI license plate recognition detection, once the Navigator is triggered, there will be a license plate recognition OSD notification.
Remote LPR Detection	Navigator remote license plate recognition detection, once triggered, navigator will have license plate recognition OSD notification.
Face Recognition Detection	Navigator face recognition detection, once triggered, navigator will have face recognition OSD notification.
QRCode Detection	Navigator QRCode detection, once the Navigator is triggered, there will be QRCode OSD notification
AI Behavior Detection	Navigator AI traffic behavior and object detection, once the Navigator is triggered, there will be traffic behavior alert notifications.

Chapter 4.6.1 Remote IP camera with digital I/O If the IP camera is equipped with a DI/DO interface, enable "Remote Alarm Input" in the alarm input list, and then check "Enable Alarm Input" to trigger the IP camera digital output.

Chapter 4.7 Alarm Output Management

The alarm output function supports a variety of different alarm responses, which can be used for motion and remote motion alarm detection management. The alarms that can be triggered may vary depending on the camera model.

Alarm Input Management	Alarm Output (DO)	
Remote Digital Input Remote Motion/Tripwire Detection Remote Tamper Detection Remote Audio Detection External IO Device Motion Detection NAV CGI Triggering Video Loss Detection ANPB Detection	 Play Sound Send E-mail PTZ Preset Recall Signal Digital Output Alarm Full Screen Post-alarm Record Pre-alarm Recording Advanced Alarm D0 Alarm ACK 	
	1 •	•
Options	Options	

Alarm Output Management	Description
Play Sound	When an alarm triggers or an event occurs, a user defined wav audio file will be played.
Send Email	Send email notification
PTZ Preset Recall	Set PTZ to move to preset position
Signal Digital Output	Send IPC digital output
Alarm Full Screen	When alarm triggered or an event occurs, the channel is displayed in full screen.
Post-alarm Record	After alarm occurs, will record for 5 seconds.
Pre-alarm Record	Before alarm occurs, will record for 1~10 seconds.
Advanced Alarm DO	Turn on DO device, i.e. IP Camera's DO, MOXA 1200 Series
Alarm ACK	Alarm acknowledgement after the alarm occurs, if the user has two monitors, it will automatically pop up.
Alarm Snapshot	Alarm snapshot
Text Overlay	Users can custom input Chinese and English special symbols displayed in the channel screen
App Cloud Push Notification	When an alarm triggers or an event occurs, navigator will send push notification to mobile app.
NCC TVWall ACK	NCC Mosaic TVWall ACK Alarm confirmation function
NCC Emap Center Alarm	NCC Emap Center eMap control alarm trigger
NCC Play Audio	View Manager trigger the alert sound after the alarm is set off
NCC Global Alarm Settings	NCC Global alarm system triggered at the same time

Chapter 4.7.1 Advanced Alarm DO

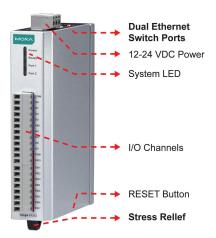
You can set IP Camera's DO and MOXA Uport on advanced alarm outputs, triggering warning lights or buzzers and gate control switches.

dvanced Alarm D	O Setting Dialog	ue	
Number		1:	~
DO Device		MOXA 1200 Series	~
Alarm DO Devic	e	Disable IP Camera's DO	
Device Type		MOXA 1200 Series	
Relay Interval		NAV CGI DO ANPR CGI DO Message LED Panel CGI DO	
IP Address			Connect
Password			
DO-00	D0-01	D0-02	DO-03
Device Scan	Save		OK

Chapter 5 MOXA-ioLogik-E1212Control Box

The ioLogik E1200 industrial Ethernet remote I/O has two embedded Ethernet switch ports that allow information to flow to another local Ethernet device or connect to the next ioLogik in the daisy-chain. Applications such as factory automation, security and surveillance systems, and tunnel monitoring, can make use of daisy-chained Ethernet for building multi-drop I/O networks over standard Ethernet cables.

Attention! MOXA control box with Navigator software is only up to version 3.0.0.170. Please contact technical support team for further support.



Note: The Reset button restarts the server and resets all settings back to factory default. Use a sharp object, such as a straightened paper clip, and press down the RESET button for 5 seconds. Once the READY LED turns green again, the factory defaults will be loaded. Then you can release the RESET button

Chapter 5.1 MOXA General Settings

In General Settings page, you can specify the server name and location to help you distinguish between different ioLogik E1200 devices. You can also configure the Modbus / TCP timeout interval or enable communication watchdog function.

I/O Server Settings		
Server Name		
Server Location		
Enable Server Socket Idle Connection Timeout Interval	60	sec (1-65535, default = 60, disable = 0)
Enable communication watchdog	0	sec (1-65535, default = 0, disable = 0)
Locate I/O Server	Enable I/O Local	50

Chapter 5.2 MOXA Ethernet Configuration

In Ethernet Configuration page, you can set a static or dynamic IP address for the ioLogik E1200 and configure subnet masks and gateway addresses.

Ethernet Parameters		
IP Configuration	Static	
IP Address	192.168.127.254	
Subnet Mask	255.255.255.0	
Gateway	0.0.0.0	

Chapter 5.3 MOXA Web Console IO Setting

The status of each DI (digital input) channel appears on the DI channel setup page.

Refresh page				
DI Channel	Mode	Status	Filter	Counter Trigger
DI-00	DI	OFF	100.0 ms	
DI-01	DI	OFF	100.0 ms	
DI-02	DI	OFF	100.0 ms	
DI-03	DI	OFF	100.0 ms	
DI-04	DI	OFF	100.0 ms	
DI-05	DI	OFF	100.0 ms	
DI-06	DI	OFF	100.0 ms	
DI-07	DI	OFF	100.0 ms	
DI-08	DI	OFF	100.0 ms	
DI-09	DI	OFF	100.0 ms	
DI-10	DI	OFF	100.0 ms	
DI-11	DI	OFF	100.0 ms	

Chapter 6 IP Camera IE Webpage IVS Tripwire Detection In IP camera web page settings, please go to Advanced mode" \rightarrow IVS \rightarrow Advanced Tripwire Detection

- Ure
 Basic Mode
 Advance Mode
 Language
 Logont

 System
 Video / Audio
 Network
 Event
 Notification
 Maintenance

 Wid
 Advance >> Event >> IVS
 Notification
 Maintenance

 Video / Audio
 Present
 Enable
 Advance >> Event >> IVS
 Notification
 Maintenance

 Video / Audio
 Present
 Enable
 Enable
 Enable
 Present
 Pr
- 1. Enable the Advanced Tripwire Detection to edit, and then set the tripwire area.
- 2. When an object passes the tripwire, it will trigger, and the tripwire will change from green to red.



Chapter 6.1 Navigator Alarm Management Settings

- 1. Select IVS Camera Channel \rightarrow Right mouse click \rightarrow "Camera Properties".
- 2. In Camera Setting Page, press "Alarm Management".

		Display/Record				Preview		
	0.0	Name	Cam 116					
		Channel Location						
	Camera	Device Type	IP Camera	~	Detect			
Cam	era Properties	Channel	Cam 001		Setting			
Playt			Auto import NV	R	Import			
	iote Playback of IP Camera SD Card anced Alarm DO	Streaming Mode						
			Dual Streaming Mode for					
	Screen Mode mal Mode	Record Mode	Record dual streams	~	1 FPS V			
A CONTRACTOR OF A	Panel	Network	192, 168, 26, 160					
	Overlay	IP/DNS	100			Find Device		Video
Paus		HTTP Port (ex. 80)	80		×	Find Device		Video
Devi	ce Information	Onvif Port (Optional)				Assign the	e Recording Disk	
		HTTPS Port (ex. 443) Video Port	554			Auto switch the au	-	Alarm Management
-	Contraction of the local division of the loc	Username	admin			1.000 C C C C C C C C C C C C C C C C C C		
					-	ONVIF		ePOS/OSD
		Password			9	Device Type:	IP Cam	ANPR Group Setting
		Camera/485 ID	1		~	Alarm Input (DI):	1	Object Counting
and the state	Shadda -	Synchronize Time	with PC		Apply	Relay Output (DO):	1	Facial Recognition
		Low bit rate client	and server connection	0.0	IS FPS 🚽			Advance: Privacy Mask/OSE
NA STATISTICS	F	Reboot Device	Laur	hch Bro	wser		1	OK Cancel

- 3. Alarm Input Management → Check "Remote IVS (Motion) Detection", Check at least one alarm output, **For example:** "Post Alarm Record", if you need MOXA DO action, then check "**Advanced Alarm DO**" and "Options".
- 4. Press "Device Scan"→MOXA Device Connection

Condition#1 Condition#2 Condition	n#3 Condition#4 Others	Number		1:	~	Others	Number	1:		
Alarm Input Management	Alarm Output (DO)	DO Device		MOXA 1200 Series	~		DO Device	MOXA	200 Series	
Remote Digital Input Remote IVS [Motion] Detection Remote FASE Detection Remote Famper detection Remote Audio Detection	PTZ Preset Recall Signal Digital Output Alarm Full Screen Post-alarm Record Pre-alarm Record	Alarm DO Device Device Type Relay Interval		E1212 Always			Alarm DO Device Device Type Relay Interval	E1212 Always		
External ID Device Motion Detection NAV CGI Triggering Vitan Lors Datastion Vitan 1 ors Datastion	Advanced Alarm D0 Alarm ADK Alarm Snapshot Treat Rivertaw < >>	IP Address		192.168.26.60	Connect	Device 1		MAC Address	DI Part Num [DO Port Nu E
Options	Options	Password				E1212	192,168,26,60	00-90-E8-3F-C 8	8	8
Enable Alarm Input (DI) AND Logic Alarm Notification Detection Dwell (Sec) Use Not Logic	Pre-alarm Dwell (Sec) 1 Alarm Output Dwell (Sec) 5 The Next Alarm Output Dwell Disa (Min) ameras Alarm setting from rem	DO-00	V DO-01	DO-02	DO-03	e I			ок	Cancel

Note: The position of DO and MOXA box must correspond to each other to have normal DO output.

Chapter 6.2 External IO device

- 1. Please check "External IO Device" → "Options" → Select Device Type "MOXA 12XX" → "Device Scan"
- 2. Press "Device Scan" \rightarrow MOXA Device Connection

Condition#1 Condition#2 Condition	By External IO Device		×	Others		1		
Condition#1 Condition#2 Condit				Uthers	Number	1		
Alarm Input Management	Number	1:	~		DO Device	M	OXA 1200 Series	
Remote Digital Input	Device Type	MOXA 12XX	~		Alarm DO Device			
Remote IVS (Motion) Detection	Alarm DO Device				Device Type	E	1212	
Remote Tamper detection	IP Address	192,168,26.62	Connect		Relay Interval	Al	lways	
Remote Audio Detection	MAC Address	192.108.20.02	Connect	Device S	can			
NAV CGI Triggering	Device Type			Device Tw	ce IP Address	MAC Addres	ss DI Port Num	. DD Port Nu., D
Video Lore Datention	DI Port Number		3	E1212	192.168.26.60	00-90-E8-3F-C.	. 8 8	8
Options	🗖 DI-00 🛛 🗹 DI-0	01 🚺 DI-02	DI-03					
Enable Alarm Input (DI)	🗖 DI-04 🖉 DI-0	05 🕅 DI-06 🛛	DI-07					
AND Logic Alarm Notification								
Detection Dwell (Sec) 1 ~								
Use Not Logic	Device Scan	ОК	Cancel				ок	Cancel
Apply C	ameras Avarm setton	g from remote device			Device Scan	Save		OK

Note: DI stands for MOXA switch device.

Chapter 6.3 Alarm Acknowledgment

You need two monitors to enable alarm acknowledgment, one for Navigator and the other for alarm acknowledgment. Click the Monitor Setting icon and set the Alarm ACK Monitor to the second monitor.

Default grouping						N	lain Group	ing		~	
Default window division						3	6			~	
Auto minimize when sys	tem starts					C	n			~	
Full screen mode after r	eboot					C	ff			~	
Low CPU usage mode						C	ff			~	
Alarm ACK Monitor						0	HT			~	
Enable 2X2 Monitor											
Sub Monitor	Quad di	Quad display Default group		Sequence time		B	Division		Low CPL mode	Low CPU usage mode	
The spot monitors #02: Monitor(No. 2)											
	Off	~	16-Division IP Ca	m. ~	Off		16		Off		
#04: Monitor	Off	~	Main Grouping		Off		36		On		
	Off	~	Main Grouping		Off		36		On		
#06: Monitor											
403: Monitor 404: Monitor 405: Monitor 406: Monitor 406: Monitor 407: Monitor 408: Monitor 408: Monitor	Off	~	Main Grouping		Off		36		On		



Video is displayed on the Navigator alarm acknowledgement monitor you designated. To acknowledge the alarm, click the ACK OFF button at the bottom left corner of the Navigator alarm acknowledge monitor.



To setup the acknowledgement feature, check **Alarm ACK** in the alarm output list.

Chapter 6.4 Notify Navigator Installed on Other Computers

Third-party software can enable or disable videos on the alarm acknowledge monitor using the CGI commands provided by Navigator. See HTTPAPI.PDF on our official website for more details.

Chapter 7 Recording Settings

By default, Navigator starts continuous recording after an IP camera is connected. To change recording configurations, please read the following sections.

Chapter 7.1 Schedule Recording Settings

The recording schedule of Navigator can be set to Always, No Record, and Motion, and the time increment can be set down to an hour. To designate which hours to record, first choose the recording type (Always, No Record, and Motion), and then highlight as many boxes as you like in "System Settings"—"Schedule".

Click Apply next to Apply All Schedule to apply the selected recording type to all days and hours. To apply a recording type to all channels, click "Apply All" for apply schedule to all channels.

Cam 010) Car	n 010							0																
Gainto To) Gai																								
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sunday						2		2				1							2					
Monday																								
Tuesday					1																			
Wednesday		1																						
Thursday																								
Friday																								
Saturday																								
O Always																								
O No Record												9	ave											
Motion																								
Motion																								
ply All Schedul	e										Apply													
niv Schodulo tr		han	nole								Apply all													
pry Gonedule II	nal G	III	11015									Ap	ny a	"										
ply Schedule to	All C	han	nels									Ap	oly a	I										

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Chapter 7.2 Motion Detection Recording

To enable motion detection recording, click in to open the Properties dialog box. Next, click Alarm Management and check Remote Motion Detection. Click Options to configure the settings. Navigator provides up to four user-configurable motion detection areas. Simply drag across any areas on the screen to define a motion detection area. Right-click to clear one or all designated areas. To adjust motion detection sensitivity, use the scroll bar at the bottom of the window. Motions that are detected within the highlighted areas will send an alarm to the system. Click Apply for the settings to take effect.

Alarm Input Management	Alarm Output (DO)	Remote Motion Detection
Remote Digital Input Remote Motion/Tripwire Detection Remote Face Detection Remote Tamper Detection Remote Audio Detection External ID Device Motion Detection NAV CGI Triggering Video Loss Detection	 Play Sound Send E-mail PTZ Preset Recall Signal Digital Output Alarm Full Screen Post-alarm Record Pre-alarm Recording Advanced Alarm DO Alarm ACK 	Close
Options	Options	Motion Detection Apply Sensitivity: 24 High: 1 — Low:99 Clear

In the live monitoring mode, a "typellow man" appears in the channel if any motion events are detected.



Note: The use of remote motion detection can further reduce the CPU load of a Navigator PC, for this function utilizes the motion detection engine of the IP camera.

Chapter 7.3 Recording at System Startup

Check this option to start recording automatically every time you boot the system. It is not required to start recording manually. If a schedule is set, Navigator will begin recording according to the schedule at startup.

Channel																								
(Cam 010) Car	n 010							~																
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sunday	1		0			0		0				0		1		1		1				1		
Monday																								
Tuesday						1								1		1		1					1	
Wednesday	3	2	1	1		1		ĵ)	1	e e		1		1	1	1	1	1		1	1	2	1	
Thursday																								
Friday																		1						
Saturday																								
Always																								
O No Record													ave											
												-	ave											
OMotion																								
pply All Schedul	e											A	pply											
pply Schedule to	AILC	nani	nels									Ap	ply a											

Chapter 7.4 Estimated Recording Days

To estimate the remaining storage capacity (days), a user can click System Setting and switch to the Record Time tab. Estimated recording day and time information will be displayed on the right side of the pane.

System Settings			System Settings
System Settings Grouping Schedule	Recording Time Ne	twork Failover	System Settings Grouping Schedule Recording Time Network Failover
□ Drive Free Space □ C1 47% 464 508 □ D1 93% 321 402 □ F1 14% 1862 908 ♥ T1 25% 2794 408	System Re	Auto run this application when system starts Auto sequence after reboot Griginal vide resolution at full screen mode Auto login when system starts Groce to enter the reason for backup and playback Low tatery, mode Enable "Applications" after reboot Snapshot Path T:NV4VSnapshof	Dr.k. Free Space Total Recording HDDs: 1 C1 47% 464 59B Available Recording Space: 2682258/IB / 2619G D1 08% 951 4051 Remaining Recording Space: 569961/IB / 548G F1 14% 1482 9051 Remaining Recording Space: 569961/IB / 548G V T1 25%/2794.4GB/Speed Tms Queue 0.0 Avarage Frame Size: 698 KB/Sec Total Recording Time: 45 Days 13 Hours 3 Minutes Remaining Recording Time: 9Days 12Hours 3 Minutes CPU Load 2195% NV Memory Usage: 10MB, HTTP 8021 Service Of Memory Usage: 10MB, HTTP 80000000000000000000000000000000000
System Reserved Storage 175 G Video Reserved Days 30 (1 Image Reserved Days 25 (1 RAID System Monitor Storage	- 365) Apply	System Management Re-edit Event Text	System Available Memory 22530077MB Login Counter(Commissing and Recording): (1+1)/06931X0ps; (1+1)/Max(0+109)/698Kbps Database connection status: ErrorCode 0, LastDeleteFileTime 2023/05/10 16:53:00 Server Host
GUID: 20	* A93	OK Cancel	GUID: 2C 93 OK Cancel

- Total Recording HDDs: Recording sector is checked.
- Available Recording Space: Total hard disk capacity minus the reserved space for loop recording (ie:873994MB/854G).
- Remaining Recording Space: The remaining recording space of the hard disk (ie:128MB/0G) .
- Average Frame Size: Hard disk recording data (ie:2323KB/Sec) •
- Total Recording Time: Recordable space ÷ average recording flow = total recording time (days/hours/minutes)
- Remaining Recording Time: Remaining recording space ÷ average recording flow = remaining recording time (days/hours/minutes) ∘

Chapter 7.5 Network Storage NAS

You are allowed to save recorded files on network storage such as iSCSI or NAS if the network storage supports "Network Neighborhood" protocol.

System Settings Gro	uping Schedule Recordi	ng Time Network	Failover			
Local Host Name	Daniel Rec Server		Add network drive			
Streaming Server	Enable IPv6		Mapped drive of NVR software F	°C		
Listen Port	8021				Network	-
HTTP Port	8080		Drive:	~	> 7F- ONG	
HTTP IPv4 Link	http://192.168.3.20:8080		Username		DAT PO	
HTTP IPv6 Link: Status:	Disable		Password	Apply	> DESKTOP-0	
ок		Apply		Free Space 464.5GB	> DESKTOP-0 D	
HTTP Timeout	5	~		% 464.5GB	> DESKTOP-1	
HOST IPv4:	192.168.3.20	~		% 1862.9GB	> DESKTOP-3)J	
			T1 25	% 2794.4GB	> DESKTOP-4 7	
NAT IP Address:	192.168.3.20				> DESKTOP-B 7	
NAT Command Port	8080					
NAT Streaming Port	8021		Remove Drive		> DESKTOP-Q IN	
Enable SDDP B	oadcast Apply DDNS	Browser Setting			> DESKTOP-R R	~

To do so, go to the Network tab. Click Add Network Drive, and select any network storage by clicking Mapped Drive of Navigator Software PC. Choose Apply when the network storage is selected. Check the storage you just added at the bottom of this window. Navigator will begin circular recording and save the files to the drive you selected.

Otherwise, you can go to My Computer→Tools→Map Network Drive. Please make sure that the Reconnect at logon option is checked to avoid losing connectivity.

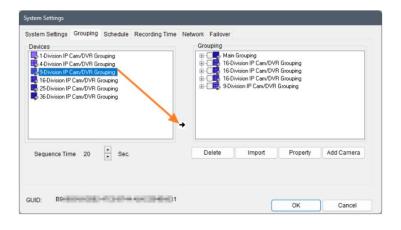
💻 📝 📗 🖛 This PC			- 🗆 🛛	×
File Computer View			^ (2 - R Map Network Drive
	vare Man natwork ord a natwork			What network folder would you like to map? Specify the drive letter for the connection and the folder that you want to connect to:
\leftarrow \rightarrow \checkmark \uparrow \blacksquare \rightarrow This P	c	ڻ ~		Drive: Z:
 ncc OneDrive - Personal This PC 	Videos			Folder: Folder: Example:\\sever\share Zeconect at sign-in
3D Objects	Local Disk (C:)	Local Disk (D:)		Connect using different credentials
Desktop	221 GB free of 465 GB	572 GB free of 93	1.68	Connect to a Web site that you can use to store your documents and pictures.
B Documents	Test Tool (E:)	DanielApo (F:)		
 Downloads Music Pictures 	615 GB free of 931 GB Video Rec (T:)	1.04 TB free of 1.	81 TB	
Videos 12 items	 2.41 TB free of 2.72 TB 		800 📼	Finish Cancel

Chapter 8 Group Settings

Chapter 8.1 Grouping

Users are allowed to divide cameras or DVRs into groups based on their geographic locations or functions. You can easily view the videos recorded by the grouped devices. To create groups, enter System Settings and click Grouping and follow the followings steps:

- 1. Select a group type from the left pane and click the Right Arrow to create a group.
- 2. Click OK to save the settings.



Chapter 8.2 Group Naming

To name a group, right-click a group and select "Property". Enter the name you want to use into the text field.

Grouping	Grouping	
	Grouping	ок
GeDivision IP Cam/DVR Grouping GeDivision IP Cam/DVR Grouping	Name 9-Division IP Cam/DVR Grou	Cancel
16-Divi Delete		
Property		
4-Division IP Cam/DVR Grouping 9-Division IP Cam/DVR Grouping		

Note: Main grouping is system default name and cannot be modified.

Chapter 8.3 Auto add Devices in a Group

For saving time and convenient operation, user can automatically import IP Camera, DVR and other multiple devices in each grouping by clicking "Add Camera". Each group supports 36 devices.

system Settings Gr	ouping Schedule	Recording time	e iveo	WOIK Fallover					
Devices				Grouping	-				
I-Division IP Cam/DVR Grouping 4-Division IP Cam/DVR Grouping 9-Division IP Cam/DVR Grouping 16-Division IP Cam/DVR Grouping 25-Division IP Cam/DVR Grouping 36-Division IP Cam/DVR Grouping				Main Grouping Figured room Figured room					
Sequence Time	20 + Sec			Delete	Import	Property	Add Camera		

Chapter 8.4 Quickly Add device

After clicking on "Add Camera", and IP auto search is finished, you can quickly find the desired device by selecting Scan Device Type.

Name	IP Address	Port	Model	Version	MAC Address	Status	
NV 2	192, 168, 5, 214	80	42	1.	0.000		
0 NV 2	192.168.5.217	80	42	1	0		
H. Stel P Cart	192.168.50.235	80	5	0.	0		
NAME & BOTT	192.168.26.49	80	27	0.	0		
No. 2	192.168.5.207	80	42	1.0.000	0		
NN 2	192.168.5.205	80	42	1.	0		
ZF	192.168.3.15	80	592	2. 3	0		
🗌 NR 2	192.168.5.212	80	42	1.	0		
PN	192.168.26.190	80	10001		0		
Z:	192.168.77.181	80	645	9. 38	0		
Z⊧# == == =	192.168.3.67	80	10001		0		
N \$2	192.168.5.209	80	170	1.	0		
Zika and a	192.168.3.208	80	660	10 330	0		
N 2	192.168.5.215	80	42	1.	0		
N 2		80	170	1	0		
	107 120 9 20	60	10001		0		
	EPCAM	T			admin		
Scan Device Type			~	Username	admin		
	IPCAM NVR/DVR			Password			

Auto detect Onvif device connection status. If the connection fails, it instantly correct account password and network port. Manually press "Onvif" will detect the connection again.

elect Device	Name	IP Address	Port	Username	Password	Profile	Connection state	Options
	Select All / Selec 7 aniel	192, 168, 26, 160	80	admin	*******	profile0	Connected successfully.	Advance
	No.	192.168.26.163	80	admin		promeo	The network connection is failed.	HUTHING
1	2 March 199	192.168.26.165	80	admin	*******	profile 1	Connected successfully.	Advance
	Parameter	192, 168, 26, 166	80	admin	*******	profie0	Connected successfully.	Advance
Onvif	-							

After confirming the device is connected, the devices listed above can be imported into the specified group.

hannel Name	Channel Number	
Point Daviel	#003	
A BLOWED	#004	
04040340	#005	
# 1100-403	#005	
roup Name Main Group		
Main Group		

Chapter 8.4.1 Add an NVR or NAV Host

The maximum limit for each group on the NAV host is 36 channels. When importing remote devices, you can choose to import the first half or the second half of the devices.

Select Device	Name Select All / Select	IP Address	Port	Options		
	NVR #1	192.168.3.121	80	Advance		
	NVR #1	192.168.3.121	80	Advance		
	NVR #2	192.168.3.121	80	Advance		
	NVR #4	192.168.3.121	80	Advance		
	NVR #5	192.168.3.121	80	Advance		
	NVR #6	192.168.3.121	80	Advance		
	NVR #0	192.168.3.121	80	Advance		
	NVR #8	192 168 3 121	80	Advance		
	NVR #9	192.168.3.121	80	Advance		
	NVR #10	192.168.3.121	80	Advance		
	NVR #11	192.168.3.121	80	Advance		
	NVR #12	192 168 3 121	80	Advance		
	NVR #13	192.168.3.121	80	Advance		
	NVR #14	192.168.3.121	80	Advance		
	□ check first he		check second hal	-		

Chapter 8.5 Group Authentication

To assign access rights to particular users, please check Device checkbox to allow access to groups or channels. The default setting allows every user full access to every device in the group. Group access rights also apply to web servers. Users with different access levels can only see the videos of their corresponding groups.

lser type :	2:manager	Idodity Delete	Operation Device Schedule	
	Username	Annotation		Search
1 2	ABC123 Pema	The account can be accessed The account can be accessed	Allowed List Denied List	- Seath
			V - V Navigator Stations	
			v 🥺 🧱 2J XXXX phil desktop	
			V V P P #001 MAIN TEST	
			#002 Cam 002bbbb	
			=004	
			005 NAV 1.3m test7	
			#009 Cam 009	
			- 2 I a 010 Cam 010 screen capture	
			😒 🐻 #011 Cam 011 192.168.26.161	
Add	Delete Account	termineted Peccycod File		

Chapter 8.6 User Authentication

To assign access rights to particular users, please check Operation checkbox to allow access to groups or channels. The default setting allows every user full access to every device in the group. Group access rights also apply to web servers. Users with different access levels can only see the videos of their corresponding groups.

User type :	2:manager	🗸 blodify Delei	Operation Device Schedule
No. User	name	Annotation	
1 ABC1 2 Pema	23	The account can be accessed The account can be accessed	Option
Add	Delete Account	Tomand Passed For	Relingstor endap Relingstor endapt TC Centred Relingstor tradebase Memory Relinds Relingstor tradebase Memory Relinds Relingstor tradebase Memory Relinds Relingstor Advanced Advanced Memory Relinds Nelingstor Advanced Advanced Memory Relinds Nelingstor TC Setting Centrel Nelingstor TC Setting Centrel Nelingstor Memory Relinds Nelinds Nelinds

Chapter 8.7 View a Group

To view the videos of a group, click "Groupings" and chose the group you want to see.



Chapter 8.8 Group Sequential Playback

To adjust the group sequential playback interval (seconds), go to the Grouping tab in System Settings.

Sequence Time	20		Sec.
---------------	----	--	------

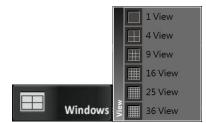
Chapter 8.9 Main Grouping

Main Grouping is a group consisting of 36 devices, which are displayed in a split view in Navigator. To add a device to the main grouping, please follow these steps:

- 1. Select Main Grouping in grouping dropdown list.
- 2. Right-click one of the cameras.
- 3. Select Properties.

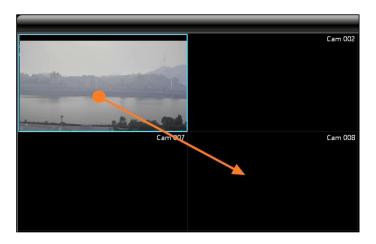
Chapter 8.10 Split View

Currently, Navigator supports four types of split views including full screen view, 4-channel view, 16-channel view, and 36-channel view. To open the full screen view, double-click a camera to maximize the screen. Click Windows, and choose the type of view you want to see.



Chapter 8.11 Dynamic Video Channel Swapping

If you want to move a camera channel around, you can simply drag a camera to another video channel. This operation swaps these two cameras' positions dynamically in the software. For users who want to adjust the display position after site installation, they do not need to re-assign the IP settings.



Chapter 8.12 Digital Zoom

To zoom in a specific area, click and drag to create an area for digital zoom. Then you can move the zoom-in area (green area) at will.



The digital zoom function is also available in the playback mode.

Chapter 9 Playback in Navigator

Navigator can playback the videos recorded by all IP-based products including H.264/H.265 HD IP Cameras, Full D1 IP Cameras, IP Fast Domes, Video Servers, LAN Cameras, and DVRs.

Chapter 9.1 Playback

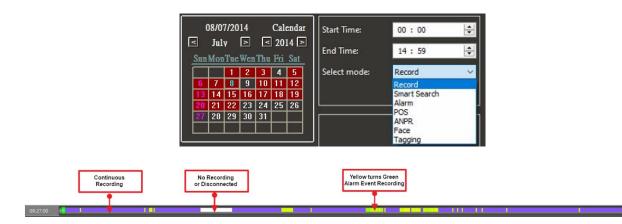
First of all, select a camera channel or a DVR. Press the Playback icon reveal, and choose Playback Playback. A new window will open.



Chapter 9.2 Playback for an IP Camera Within the MainGrouping

Video recorded in the main grouping can be saved to a local PC. Stored video clips can be played by specified date and time. To do so, follow below steps:

- 1. Choose a date in the calendar.
- 2. Specify the starting time and ending time.
- 3. Click "**Search**" to search the video clips.



When a video clip is playing, click Stop O, Play O, Pause O, << (Rewind) O, >> (Fast Forward) O, and Snapshot O icons to perform the corresponding function. You can also click the time-bar or drag the scrollbar to jump to a specific time.

- White: No recording or device disconnected.
- Purple: Continuous recording.
- Yellow gradually turns green : Alarm event recording, the color frequency range is 1~10. As events become more frequent, the color gradually becomes greener.

Chapter 9.3 Multi-Channel Playback

You can choose a group for multi-channel playback. Just click the multi-channel playback icon III, and a playback window appears as below:



66-UM-NAV5.0-OE-9

Navigator supports up to 36-channel playback at the same time. A number of settings can be changed for multi-channel playback: (1) NAV/CMX I frame only (2) I frame only. I frame only is only available when multi-channel playback is activated, and activate this option will force Navigator to show only 1 frame/sec in the background to reduce CPU load. For less powerful workstations, we suggest you activate this option. However, you may uncheck the option if CPU usage is low.

tting		×
NAV Iframe Only		
Iframe Only		
All channels are set to if	rame	
Original video resolution i	n full screen mode	
Display hardware graphics a	cceleration (default)	~
Smart anti-aliasing		~
Default Windows Division	16	~
Language	English	~
POS Text	Font Sett	ings
SNAP		
Capture a single frame		~
Total number captured	1	
Capture Frequency	Low	
	ОК	Cancel

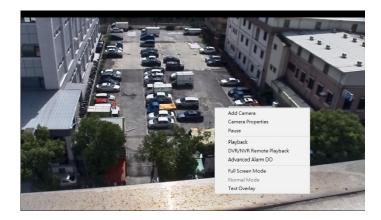
Chapter 9.4 Remote Multi-Channel Playback

You may also connect to another Navigator host remotely and play videos saved on that host. To enable remote playback, click Playback, then select Remote Playback 🖾. Click the Connect button and enter IP/DNS address, port number, username, and password to access Navigator. Select a group for multi-channel playback. Moreover, you can add Navigator hosts as bookmarks to instant login in the future.

Bookmark	2: 192.168.26.20	~
Server Type	NAV Streaming Server	~
Server Name	NAV Streaming Server DVR2B/2C Series NVR/DVR Local NVR File	
Server IP/DNS	IP Camera SD Card File AHD/DHD Series	
Server Port	8021	
Username	admin	
Password		0
High Quality Type		

Chapter 9.5 Remote DVR/NVR Playback

For playback videos on a remote DVR/NVR, right-click the DVR/NVR channel and select DVR/NVR Remote Playback.



Then you will see the DVR/NVR Playback dialog box. Specify the date and time information in the dialog box to start remote DVR/NVR playback.

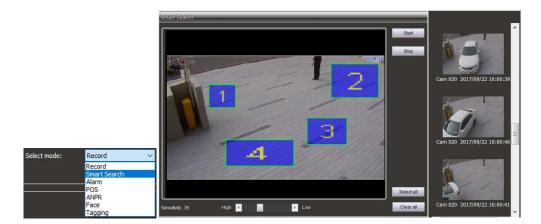


Chapter 9.6 SmartSearch

SmartSearch is available in multi-channel playback. This search function provides quick video search in selected motion detection zones.

To perform SmartSearch, enable full screen mode for a particular camera. Select SmartSearch in the drop-down list of Select Mode and press Search. A SmartSearch dialog box will appear. Drag the motion detection area on the screen inside the SmartSearch dialog box. Click Start, and the system automatically performs a quick scan for any signs of motion activities in the video clip.

In the event list, snapshots of the motion activities will be displayed. Click on the snapshots to jump to the time when a particular event happened.



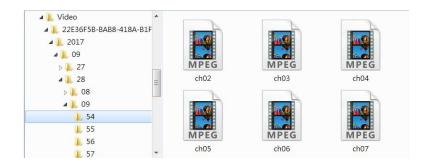
Chapter 9.7 AVI File Export & Play from a File Chapter 9.7.1 Export AVI with OSD

Users are allowed to export an AVI file recorded by a main grouping device. First you need to open the playback interface and search for a recorded video. Click the Backup button, choose Destination Directory, and press Convert AVI with OSD on the right side of the screen to export the AVI file.

Chapter 9.7.2 Export AVI without OSD

Export an H.264 AVI file without an OSD timestamp can be much faster than rendering an AVI file with a timestamp.

Navigator stores its video clips in a GUID folder inside the default Video folder. The GUID folder is named by a 32-digit hex string. The videos are saved under year, month, day, hour, and minute.



Note: As the OSD file is too large and it takes a long time to backup, OSD backup AVI supports maximum of 1920 x 1080 resolution only.

Chapter 9.8 Multi-Channel Backup

Multi-channel backup features (1) multiple channel playback through MPlayer, which is a comprehensive media player; and (2) AVI backup for multiple channels.

To back up your files, click the Backup icon and select channels. Specify the date, time, and destination directory. Finally, choose Start Backup or Covert AVI for multi-channel video backup to begin.

Backup			×
Chec Channel Select All / Select Cam 001 Cam 003 Cam 004 Cam 005 Cam 006 Cam 007 Cam 008 Cam 009 Cam 010 Cam 011 Cam 012	2024/06/18 Calendar Jun 2024 Sun VionTue WenThu Fill 9 10 11 16 17 18 16 17 18 23 4 5 6 23 4 5 6 7 9 10 11 12 13 14 16 17 18 19 20 21 22 23 24 25 26 27 28 29 34 Start Time: 06 : 45 : 00 2* 3* 3* 3* 3* 3*	Destination Directory C: 'navusers (Archive) Copy MPlayer 64-bit Start Backup Stop	High quality video mode File Size 25048 ✓ File Format AVI ✓ Enable OSO Image Size ✓ Start Convert Stop
Backup Status		0 %	
			EXIT

Chapter 9.9 Snapshot

In a system consisting of IP based services, you may want to capture images in a particular video. You can utilize this function in Navigator by simply clicking the Snapshot icon **I**. The picture will be saved as a JPEG file.



Chapter 9.10 Alarm Event Playback

To playback motion detection events, choose Alarm in the Select mode drop-down list, and click Search to display all motion detection events. Click any of the events to play associated videos.

 Start Time:
 00 : 00
 Image: Constraint of the second of t

Chapter 9.11 Tagging

To tag important video clips, click **"Tagging"** to tag the video. The tagged time video clip will be retained even when have exceeds recycle recording number of days.

Selected Channel	1
Selected Channel	1
Playback Time	2023/08/09 15:23:02
Post-event Review Time	0 A Minutes 5 Seconds
Tagging Reason	15 minutes of illegal parking

Select "**Tagging**" to playback event and you can playback important clips. If you don't want to occupy recording space, right click \rightarrow "Clear" or "Clear All" tagged time in the tag period.



Chapter 10 Audio

Chapter 10.1 Two-way Audio

Navigator supports two-way audio enabled surveillance cameras. To activate this feature, select a particular channel and click the Speaker icon at the top-right corner to listen to the audio of the channel. You can also move the volume bar to adjust the volume. To speak to a remote site, please click the Microphone icon and next to the speaker icon.

NOTE: Audio monitoring is only available in the full screen mode. Double-click a channel to enter the full screen mode.

Chapter 10.2 Two-way Audio Auto Switching

Navigator supports two-way audio for IP cameras. Check Audio Auto Switch in Properties will automatically enable audio and microphone feature when the camera is switched back and forth.

Chapter 10.3 Audio Recording

Navigator supports audio recording using IP camera models equipped with audio input. The Playback interface can play audio (if any) simultaneously with the recorded video.

Chapter 11 Archive Manager

Archive Manager, a built-in feature in every copy of Navigator, can archive videos to a central network storage device. Archive Manager delivers a hassle-free experience that automatically saves your video clips to a secure location. To open Archive Manager, please go to Start \rightarrow All Programs \rightarrow Navigator \rightarrow Archive Manager.

Chapter 11.1 Archive Source

To start video archiving, select the cameras you want to archive. You can either keep the video clips in the local PC (duplicate archiving), move the local data to a remote archive destination, or stop archiving for a specific time frame. After the configuration is completed, you can schedule the archive task by choosing the hours and days you want the archiving to take place. Also, you can apply all settings to the schedules of other cameras.

Chapter 11.2 Archive Destination

You can choose the Archive Drive where video clips will be archived. The Archive Drive could either be a network RAID drive or an internal SATA RAID for large data storage. To choose a NAS RAID as the archive destination, click Setup Network Disk to mount a remote drive to Navigator. After the disk is chosen, select Real-Time Archiving or Scheduled Archiving. The former will start archiving immediately the next minute, and the latter will start archiving in the designated time.

Activate this device Source Camera: #004 Cam 004	✓ Refresh	
00 01 02 03 04 05 06 07 08 09 10 11 Sunday	Setup Network Drive Folder: Wavserver/nav ap nas Drive: Username: ABC Password Apply Driver Number Folder Path QA \\Navserver/nav ap nas	X ve Archive Apply rce archiving for a week r archiving for all channels
Only Once Start Time 14:39:03 Deal-time Archiving Sunday 00:12 Scheduled Archiving 5 ms	Remove Drive Close	Apply pply all time to all channels

Chapter 11.3 Synchronization

NAV recorded file sync

- **Data overwrite:** The system obtains the image data from the device and overwritten back to the NAV recording host.
- Data no overwrite: The system checks for missing video clip but does not overwrite.
- Data recovery: The remote server has a storage device in IP Camera SD card. When the network is

disconnected, it will recover disconnected portion from the SD card.

ive Archive Log	Sync																										
c Destination Setup																											
Activate this device						VAV C	nannel	#0	001 0	Cam C	001				~	·		Status									
ync Source Setup																				Schedu	le						
ver Type	IP o	amera S	SD Ca	d File	~		Sync I							~						Oor	ly Once	2					
ver IP/DNS	NA	/ Stream	ning Se	erver	-		-		writt	en erwrit				ON	Ove					Start	Time	[15:44	12	/13/2	021	
	IP o	amera S	SD Car	d File				of the lat						2	~	secu	nus			End T	lime	1	15:44	40	14 10 10	0.04	-
rver Port	80		_	_	_		Sync 1															4	12:44	12	/13/2	021	
ername	adr	nin	_	_	_	1	05	Start	Olde	r Red	cordi	ng Ti	ime							~	al-Time						
		222				1	٥١	Jser	Defir	ned Ti	ime									Osd	heduled	1					
ssword													_	_	_												
urce Channel	Car	n 001	~	Refre	sh		Toda	у			~	0	0:00	0 :	12/13	3/202	1			☐ Sur	1 ×	00	: 00	\$	A	pply Al	
	1.55											i.													Ť		
				Appl	y			Ap	oply A	A)I								Apply								App	(y
ecordings																											
00	01 02	03 04	4 05	06	07 0	8 09	10	11	12	13	14	15	16	17 1	8 1	9 2	0 2	1 22 2	23		Source	ce Vi	leo Reci	ording	g		
Sunday																					No St	ync					
Monday																											
Tuesday																											
Wednesday																										Арр	ły
Thursday																							Apply a 1	Maak			
Friday																						_	appay a	VVCCK			
Saturday																						Ap	ply All C	hann	els		

Note: When the device is disconnected, it can also pass through the storage device. For example: IP camera SD card for backup to the Navigator host

Note: Synchronized devices can have up to 1 channel at a time. When the network or remote device is backed up for too long, another channel will be back up after the maximum time of 1 hour is reached, until all channel sequences are completed.

Chapter 11.4 Back up Log

After completing the above steps, you can see the synchronized information in the Archive log.

rchive Archive Log	Sync		
Backup Status		Backup Log	
Channel #004 Cam 004 #006 # #010 C #013 F #014 Cam 014 #037 Cam 037 #038 Cam 038 #039 Cam 039 #040 Cam 040 #041 Cam 041 #042 Cam 042 #043 Cam 043 #046 Cam 046 #041 Cam 041 #042 Cam 043 #1041 Cam 041 #114 Cam 114 #113 Cam 115 #114 Cam 115 #115 Cam 115	Status Cam 113 [2024/3/28 14:54] Cam 117 [2024/3/29 0:0] Sy	Cam 113 sync time: 2024/0328 14:41 Cam 113 sync time: 2024/0328 14:42 Cam 113 sync time: 2024/0328 14:43 Cam 113 sync time: 2024/0328 14:44 Cam 113 sync time: 2024/0328 14:49 Cam 113 sync time: 2024/0328 14:49 Cam 113 sync time: 2024/0328 14:49 Cam 113 sync time: 2024/0328 14:50 Cam 113 sync time: 2024/0328 14:50 Cam 113 sync time: 2024/0328 14:51 Cam 113 sync tim	
			Clear
			Clear

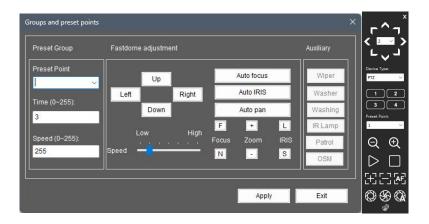
Chapter 12 PTZ Control Panel

In Navigator, you are able to control the movements of PTZ cameras. Select the channel of a PTZ camera (e.g., IP Fast Dome) and click PTZ Setting sto control the movements freely using a PC keyboard and/or the PTZ control panel

Chapter 12.1 Preset Point Settings

To set up preset points, please invoke Presets dialog box. Follow the following steps:

- 1. Select preset point dropdown list.
- 2. Type the time field.
- 3. Type the speed field.
- 4. Click up, down, left, or right to move the IP Fast Dome to specific position.
- 5. Click Apply button to set the position.



Chapter 12.1.1 PTZ Control Panel Instructions

lcon	Function	Description
<pre></pre>	Direction Button	Rotate the PTZ to 8 different directions including up and down, left and right, upper right and lower right, upper left and lower left.
L ^ J	Moving Speed	Select to adjust the speed of PTZ rotation (up to 7x).
Device Type: PTZ V	Device Type	Select supported camera device type, ePTZ, PTZ, auto focus, Fish Eye.
	Preset Recall	Up to 4 preset points can be recall instantly.
Preset Point:	PTZ Preset Point	Up to 128 preset points can be programmed.
Ð Q	Zoom+/-	Adjust digital zoom in/out.
\triangleright	PTZ Auto Pan	Enable Auto Pan, Disable Auto Pan
[+] [-] [4]	Auto Focus	Manual Focus +/- , Auto Focus AF
© & ©	Auto Iris	Manual Iris Far/Near, Auto Iris
¢\$	Preset Point Setting	Set auto pan preset positions.

Chapter 12.2 On-screen PTZ Control

In full screen mode, click on on-screen control icon that can enable PTZ control by using a mouse. Use mouse scroll wheel for PTZ zoom in and zoom out.



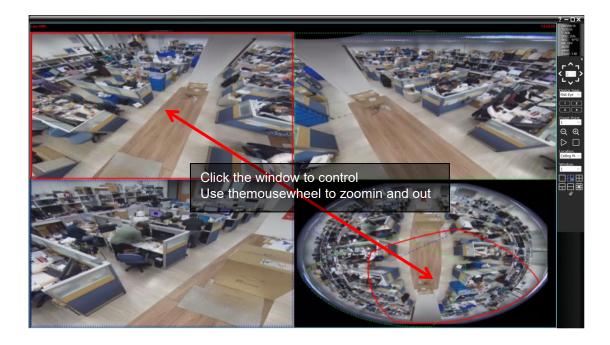
Chapter 12.2.1 Control PTZ via a Mouse

In full-screen mode, click the PTZ control button to control the PTZ on the screen. After enabling the mouse PTZ mode, use the mouse scroll wheel to zoom in and out the PTZ.

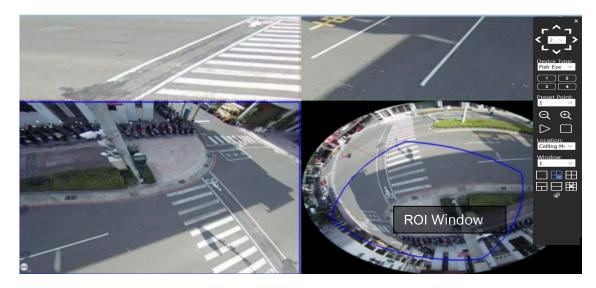


Chapter 12.3 On-screen Panoramic Camera Control

In full screen mode, click on on-screen control icon to enable panoramic camera control by using a mouse. Use mouse scroll wheel for camera zoom in and zoom out.



Drag the window at the panoramic view to adjust the ROI window. There are three mount types available - ceiling mount, wall mount, and desk mount.



Chapter 12.3.1 Fisheye Control Panel Instructions (Ceiling Mount, Table Mount)

lcon	Function	Description
Location: Ceiling Mount Ceiling Mount Table Mount Wall Mount	Location	Location: Ceiling Mount, Table Mount, Wall Mount
	R Mode	Full-screen panoramic view
	3R1O Mode	Three ROI views and one panoramic view

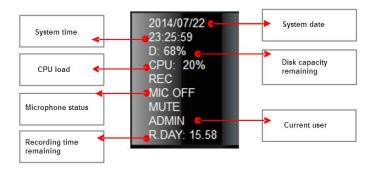
	4R Mode	Four ROI views
	2R1P Mode	One panoramic view and two ROI views
	2P mode	Two 180 degree views
	8R10 Mode	One panoramic view and eight ROI views
- GP	Preset Point Setting	Provide up to 128 preset points storage.

Chapter 12.3.2 Wall Mount Installation

The wall mount mode is different in some split screens and angles, please refer to the following.

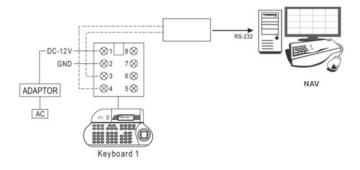
lcon	Function	Description
	2R1P Mode	One180 degree view and two ROI views
	1WP Mode	One wall mount 180 degree view

Chapter 12.4 Navigator Status Panel

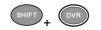


Chapter 12.5 Control PTZ via our 3D Keyboard

Many Navigator functions can be activated with our 3D keyboards. Connect our 3D keyboard to a Navigator host through an RS-232<->RS-485 adapter.



First, enter the DVR/NVR control mode by pressing SHIFT and DVR.



To use Navigator features, simultaneously press Navigator ID, DVR, and ENT.



To select a group, press and hold the monitor ID and MON before pressing the group ID and PRESET.



Chapter 12.6 Split View

To switch split views, launch Navigator and press the following icons:

16-channel	8-channel	Navigator ID+ DVR+ENT	36-channel
9-channel	4-channel		

To enter the 36-channel view, simultaneously press the Navigator ID, DVR, and ENT. The operation is the same as operating a Navigator host.

Chapter 12.7 Control a Camera

For control a camera, simultaneously press the camera number and CAM buttons. **Example:** Control camera #8



PTZ and Lens control

-8	Zoom in	9	Zoom out
+	Pan left	*	Pan right
	Tilt up	+	Tilt down
R	Zoom in		Zoom out
FOCUS	Focus far	FOCUS	Focus near
*	Iris close		lris open

Chapter 12.8 IP Camera ePTZ or ROI Feature

Several models of IP cameras provide ePTZ or ROI features. With the help of Navigator, you can use a keyboard controller to access ePTZ or ROI feature.

Chapter 12.9 Switch between Navigator and Virtual MatrixMonitors See Control PTZ via our 3D keyboard to use Navigator features. Now you can select a monitor for Navigator.



Press button 1 and MON simultaneously to control #5 Navigator monitor.

Chapter 12.10 Keyboard Playback

See Control PTZ via our 3D Keyboard to use Navigator features.

To access multi-channel playback, click the Step Forward icon to enter the playback mode.

To access single-channel playback, click the Play icon

In Playback Timer Setup, use the joystick to enter date and time. Press ENT button to search through videos. Press ESC to exit and press ESC again to exit the playback dialog box. Below are the control icons to playback with our 3D keyboard.

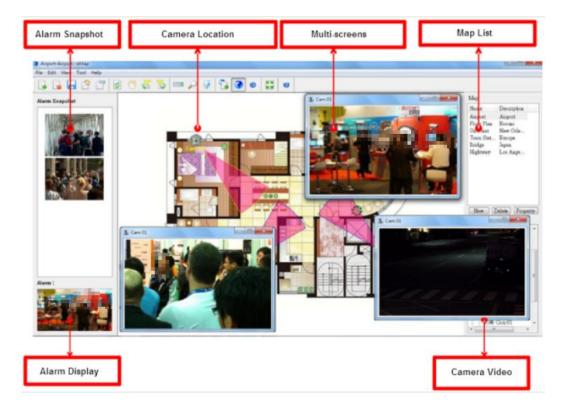
Option	lcon	Description
Pause		Pause playback.
Play		Start or continue playback video.
Fast Forward		Fast forward the playback video.
Fast Rewind		Fast rewind the playback video.
Stop		Stop playback and return to playback menu.

Select various split display modes on live and playback monitoring.

Chapter 13 eMap Manager

eMap is an application that can manage devices such as IP camera, IP Fast Dome, and DVRs/NVR on any maps. With eMap, user can easily locate a particular device on a map. Launch eMap Manager in Navigator→eMap Manager.

Chapter 13.1 Access eMap



Chapter 13.2 Find Devices

To find a device within eMap Manager, go to View \rightarrow Find or click the Find Device icon \mathbb{P} , and a list of found devices appears at the bottom right corner of the screen. Choose any of the found devices.

Chapter 13.3 PTZ Control Panel

To control PTZ device, double-click a PTZ device, and operate PTZ function on the PTZ control panel.



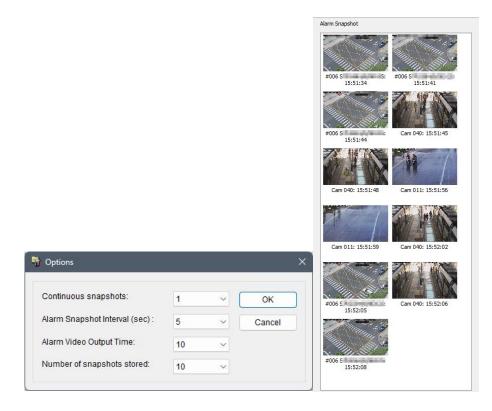
Chapter 13.4 Toolbar

The icons from left to right are described as follows:

Option	lcon	Description
Device list		Display thedevice list.
Find device		Switch to the Find Device panel.
Refresh	W	Refresh the map and device information.
PTZ control		Switchto the PTZ control panel.
Edit PTZ control	P	Supports 4 basic presets.
eMap edit mode		Add or modify devices on the map.
eMap control mode		For PTZ control and live monitoring mode.
eMap alarmswitching mode		Switch to the map where an alarm is detected.
Division		Switch to quad screen in eMap Manager mode.

Chapter 13.5 eMap Alarm Options

- Continuous snapshots: the number of continuous snapshots is taken for each alarm.
- Alarm snapshot interval (sec): the time interval between photos to be taken.
- Alarm video output time: triggering interval between alarm detections.
- Number of snapshots stored: the buffer size for storing JPEG snapshots.



Chapter 13.6 Add a Map

To add a new map, go to File-> Add Map. Or you can press the New button at the top-right corner. Select the JPEG map file representing the installation site and enter map name and location information.

#	Name	Description
	Airport	Airport
2	Bridge	Japan
3	Floor Plan11	Rooms
4	Oil Plant	New Orleans
5	Train Station	Europe
6	Hightway	Los Angeles

To delete a map, select the map in the Map List, and go to File -> Delete Map or click Delete at the top-right corner.

Click Property to change the name and location of a map.

Chapter 13.7 Add a Device to the Map

To add a device to a map, switch to the eMap edit mode before you drag-and-drop a device from Device List to its associated map. You will see a check next to the name of the added device.

Chapter 13.8 Delete a Device from the Map To delete a device from the map:

- 1. Select and right-click the device.
- 2. Select Delete Device.

Or, uncheck the device in the device list.

Chapter 13.9 Modify a Device

To modify a device, go to Edit→Device Property or right-click a device and choose Device Property. In the popup dialog box, you are allowed to make changes to several configurations, including display color and camera coverage.

Camera Name	#006	OK
IP Address	192.168.8.247	Cancel
Port	80	
		= ($>$
	nde	
Set Text Color C Enable Visual A	ngle	30

The circular shape on the right of the Device Properties window allows you to control the direction and angle of a camera. Click and rotate the camera view control clockwise/counter-clockwise to change the camera angle and move the two scroll bars at the bottom to adjust camera coverage.

Chapter 13.10 Find a Device

You can easily add DVR, DVR camera, or IP-based devices to different maps. However, finding a particular device for video playback can be difficult and time consuming. eMap Manager provides easy access to any device you want to monitor. Click Find Device A, or go to View \rightarrow Find in the menu bar. A list of all devices in all maps will be shown at the bottom-right corner of eMap Manager. Double-click a device in that list for eMap to automatically switch to the map and show the device as well as its live video.

#	Name	Location
1	Cam 001	Airport
2	Cam 007	Airport
3	Cam 013	Airport
4	Cam 002	Airport
5	Cam 039	Bridge
6	Cam 048	Bridge
7	Cam 053	Bridge

Chapter 13.11 Alarm on eMap

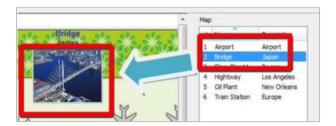
If a motion or digital input alarm sent by Navigator is detected, the camera will start blinking on the associated map, and the live video will be displayed, too.

Chapter 13.12 Quick Map Reference

In the eMap edit mode, drag any map from the list into the map view. This allows quick switching from one map to another by clicking on the map thumbnail.

Chapter 13.13 Alarm Control Mode & Switching Mode

In eMap Manager, it is possible to switch quickly and frequently between maps and videos. A user can manually double-click on the camera icons for its live video. There are up to 4 windows that can be opened at same time. When switching from one map to another, the video window(s) will be closed, and previously opened video(s) will be played automatically in the map that just opens The feature is very useful if you need to open the maps frequently



In the alarm switching mode, videos will appear on the associated map while an alarm is received. The videos will be shown in a pop-up window to attract your attention.

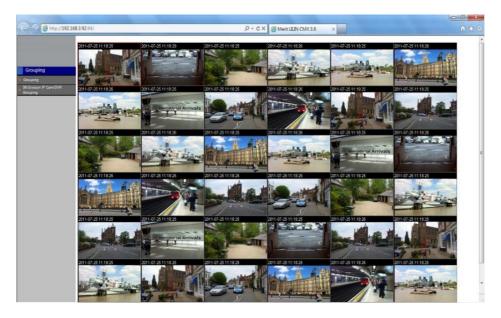


Chapter 14 Web Server

Navigator can work as a web server to stream live video. To enable the service, go to System Settings→Network and enter the HTTP port you want to use.

	Daniel Re			Add	network drive					
Local Host Name	Daniel Re	ic Server								
Streaming Server		Enable IPv6		Мар	ped drive of N\	R software	PC			
Listen Port	8021									
HTTP Port:	8080			Driv	e:			~		
HTTP IPv4 Link:	http://192	.168.3.20:8080		Use	rname					
HTTP IPv6 Link: Status:	Disable			Pas	sword		_		Apply	
OK			Apply	Dri	ve Number		Free	e Space		
HTTP Timeout	5				C:1	17%	464.5GB			
		- A.S.	~		D:\		98% 931.4GB 14% 1862.9GB			
HOST IPv4:	192.168.3	3.20	~	7	F:\ T:\	25% 2794.4GB				
NAT IP Address:	192.168.3	3.20								
NAT Command Port:		8080								
NAT Streaming Port:		8021			Remove Drive	р. []				
Enable SDDP Br	oadcast	Apply DDNS	Browser Setting							

Then, you may either click JAVA 8080 HTTP web connection mode or copy the link to the address bar of your Internet browser to view the video.



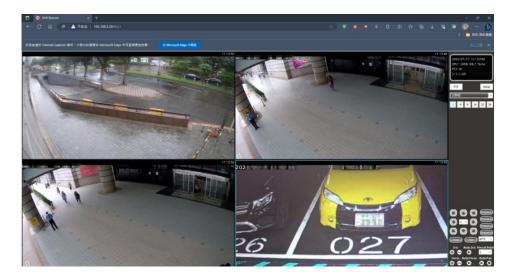
Note: 1) HTTP streaming may require username and password.

- 2) Only support IExplore web page.
- 3) The Win10 8080 Port java webpage has been eliminated, and this function is no longer maintained.

Chapter 14.1 8021 OCX Web Page Browsing Connection Mode

The OCX web page default is Port 8021, you can also connect and view it through a web browser from other locations within the local network.

For first-time users, the ActiveX must be installed, simply follow the instructions and proceed with the installation by clicking on "Next."



Chapter 14.2 Edge Enables IE Compatibility Mode

The OCX component originally only supported IE mode, but now the new Edge browser also enables compatibility mode. However, you need to access the advanced settings to enable it. If you do not configure the compatibility mode in advance, then you will only see a black screen without any prompt to install the ActiveX component.

🗖 🕄 Settings 🛛 🗙 +				- 0 ×
C (a) Stage edge://settings/default				e 🕡 🔛 🚯
😎 YouTube 📪 (3) Facebook			🖾 New tab	Ctrl+ favorites
			New window	CHIN
Settings	Default browser		Rew InPrivate window	Chi+Suit+N
			Zoom	- 100% + 🖉
	Microsoft Edge is your default browser		s∕≑ Favorites	trl+Shift+O
Profiles	Protect your default browser setting		O History	Chiert
Privacy, search, and services			Shopping	
Appearance Appearance			↓ Downloads	Ctr(+)
□ Sidebar	Internet Explorer compatibility		B Apps	
Start, home, and new tabs Share, copy and paste			C Extensions	
Cookies and site permissions	Make legacy sites work in Microsoft Edge		😨 Browser essentials	
Cookes and site permissions Cookes and site permissions	Are you facing issues in opening legacy sites? With Internet Explorer mode, y Microsoft Edge, Select Add under Internet Explorer mode pages to add any		Print	
↓ Downloads	will open automatically in Internet Explorer mode.	agacy are to lac of area one	🕼 Web capture	
Service Servic			ଣ୍ଡି Find on page	
A ¹ Languages	Let Internet Explorer open sites in Microsoft Edge 💿	Always (Recommended) 🗸	Reload in Interret Explorer mod	
Printers	When broweing in Internet Explorer you can choose to automatically open sites in Microsoft Edge		More tools	
System and performance		e - 2	영 Settings	
Reset settings	Allow sites to be reloaded in Internet Explorer mode (IE mode) 🔞	allow Y	⑦ Help and feedback	
Phone and other devices			Close Microsoft Edge	
2 Accessibility	Internet Explorer mode pages	Add		
About Microsoft Edge	These pages will open in Internet Explorer mode for 30 days from the date you add the page. No pages have been mode list yet.			
	Internet Options			

Chapter 14.3 NAT Port Setting

When the Navigate LAN server IP wants to share the connection of the external NCC central control network server, it needs to be forwarded through the NAT port before it can be opened to external connections.

- NAT IP Address: The host IP address
- NAT Command Port: The host shares the HTTP port externally
- NAT Streaming Port: The host shares the monitoring port externally

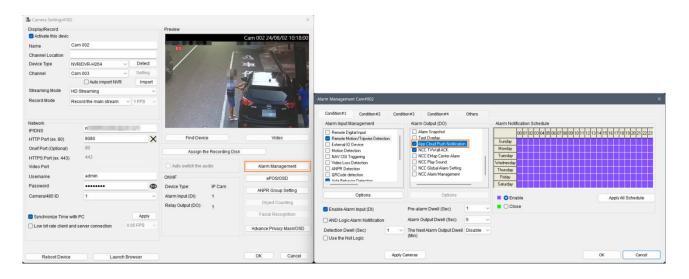
System Settings Gro			g Time Network	Add network drive					
Local Host Name	Daniel Re	c Server							
Streaming Server		Enable IPv6		Mapped drive of N	/R software PC				
Listen Port	8021								
HTTP Port	8080			Drive:		~			
HTTP IPv4 Link:	http://192	.168.3.20:8080		Username					
HTTP IPv6 Link: Status:	Disable			Password					
OK OK			Apply	Drive Number	Free Spa	ice			
HTTP Timeout:	5		 			5GB 4GB			
HOST IPv4:	192.168.3	.20	~	F:\		2.9GB 4.4GB			
NAT IP Address:	192.160.0	20			990 				
NAT Command Port		8080							
NAT Streaming Port:		8021		Remove Drive					
Enable SDDP B	roadcast	Apply DDNS	Browser Setting						

Chapter 14.4 Apply for a DDNS Account

Click on **System Settings->Apply DDNS ->** Enter the Account and Password, and then click on **Register**. To log in to the DDNS account on the mobile device and connect to NAV, please click on **Verify**. The cloud will verify the DDNS registration record of the mobile device, and then you can use the PNS2.0 push notification function.

Local Host Name	D	68	DDNS Setting						
Streaming Server Listen Port: HTTP Port:	8021	Enable IPv6	DDNS Information		h	https://event.ddnsipcam.com			
HTTP IPv4 Link:		.168.3.20:8080	DDNS Account DDNS Password	•••••		_	0		
HTTP IPv6 Link: Status:							Venify	Register	
ок			System	Phone Name	The Cloud Data	ba The last 8 di	gits of Statu	s	
HTTP Timeout	5								
HOST IPv4:	192.168.3	1.20							
NAT IP Address:	0.0.0.0								
NAT Command Port		8080							
NAT Streaming Port:		8021							
Enable SDDP B	oadcast	Apply DDNS							

Chapter 14.5 NAV Cloud Push Notification Setting Alarm Management -> Alarm Output -> Select APP Cloud Push Notification.



Chapter 14.6 Add NAV Device to the Mobile APP

Devices -> Manually Add -> Enter the device account, password, and IP address to connect.

		\leftarrow Manually Add
k☐ Live	Scan QR	
Delayback		
tot Events		IP/DNS : Enter IP/DNS for the camera Port : 80
∰ Paid Service	Manually Add	Username : admin
☆ View Setup		Password :
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	$(\mathcal{E})$	Device Name : Optional, auto load.
Devices		P2P mode
දරාර් Settings	Device Table	
ို Help		
		Step 1

Chapter 14.7 Enable Alarm and Device Push Notification in the Mobile APP **Settings** -> Enable **Alarm Events** -> Select Device Push Notification (NAV Host)

	$\leftarrow$ Settings	$\leftarrow$		
t Live	Backup to the cloud			
Diayback	Restore from the cloud	(j) 	120 fps	
<mark>∮∮4</mark> Events	Alarm Events:		P2P NVR	
∰ Paid Service	Select alarm devices		5f-dhd DVR 4CH	
숫 View Setup	Allow Notifications:		Server Streaming	
Devices	Alarm Snapshots:	\$\$ \$	3.126 NVR	
	Video/Audio		рана страна с	
ද්ූරි Settings	Full HD:			
ို Help	Auto Fit Video:		🗁 DANIELAPO	
	Window Division:	16	PC I	

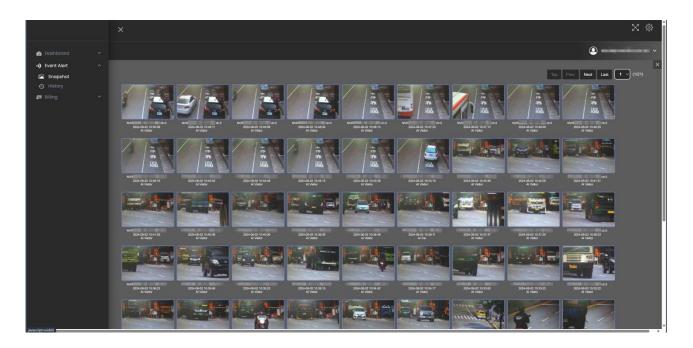
Chapter 14.8 NAV Confirm Mobile APP Connection

Return to NAV and apply for a DDNS account -> click **Refresh** -> you will see "mobile verification successful".

1.4.05			1.1.1	A start of	$\leftarrow$	Settings	
DDNS Setting					Auto Fit Video:		
Enable PNS2.0			https://event.ddnsip	cam.com	Window Division:		16
DDNS Information - DDNS Account					Network		
DDNS Password	•••••	7			Digital Output Dw (Lock):	vell, Sec	25
Check	4 dded features:SNAPS	✓			Time		
Subscription value-a	oueu realures:shars	no i alertimage uplo	au Ver	ify Register	Format:		MM/DD/YYYY
System	Phone Name	The Cloud Data	abas The last 8 digits	of Status	About		
ios	iPhone 7 Plus	2151	6e90	Verified correctly	Language:		English
					Gravity Sensor		
	+				APP ID:		6e90-
	-				Version:	1.0.1	24(2) May 22 Al
			Refresh	OK Cancel			

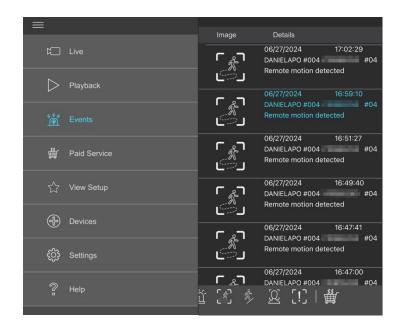
### Chapter 14.9 AI Event Alert Cloud

Al Event Alert Cloud provides Al camera photo push notification and is stored in the Event Alert Cloud. Users can use it in the cloud or LILIN Pro app. To access the Al Event Alert Cloud, please visit https://event.ddnsipcam.com



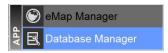
Chapter 14.10 Mobile APP Push Notification for Events

When the NAV channel alarm is triggered, the mobile APP will receive a push notification, and the complete event list can be seen in the APP **Events**.



Note: Currently only supports IOS mobile phones push notifications.

Chapter 15 Database Manager Database Manager can generate user log report and event report. In addition, this built-in feature allows database import, export, and repair.



₿			🗟 🎝 🕼	x) ()	¢   •	<b>e</b> I k	🖉 🗘 🖌 🗲 Page 1	· -> Done month	~	?	· – 🗆 ;
#	Date/Time	Device Name	Behavior		Object Na	ame Main C	olor License Plate	Plate Color	Country	Speed	
1	2024/03/19 16:44:16	Cam 021			Nissan						
					Plate						
					Plate						
					Plate						

Item	lcon	Function Description
User Log Report		User account login record, local or remote playback, and device
		modification.
Event Report	Ē	Device alarm events are triggered, such as electronic fences, cloud
	ĽG	push notifications, and motion detection.
POS Event Report		The cash register or backend sends POS text record report.
ANPR Event Report	AB-12	Allow list, deny list, custom list, country and license plate record
		report.
Object Counting Report		Camera object counting record report.
Health Record Report		Heartbeat and breathing health information.
Access Control Record Report		Door station triggering alarm event record report.
AI Recognition Log Report		Al behavior and object intelligence recognition record report.
TAG Report		Customize a specific recording time, and annotate and mark it (the
		marked time period will not undergo recording recycling).
NAV Status	Ē	Host health status, including CPU, RAM, NET, DISK, or more
	4≣⊘	detailed information.
GPS Report	The second	GPS satellite positioning record report.
Face Report	2	Allow list, deny list, custom list, and face recognition record report.

Server Report		Local or remote connection events.					
Import Database	ST.	The system import all parameter settings, such as license plate,					
	U	ace recognition, e-map, etc.					
Export Database		The system export all parameter settings, such as: license plate,					
		face recognition, e-map, etc					
Export Log		Export records reports for various events.					
Statistics	L.WS	Convert alarm records into a line chart for data analysis over					
Statistics		specific time periods.					
Refresh Database	¢	Refresh the database to retrieve new events.					
Search Settings	₽	Advanced search settings.					

# Chapter 15.1 AI Export to IVS Simple Chart

Al recognition database can be easily exported, including object type, object color, countries, automobile brands, license plate background colors, behaviors, etc., for IVS statistical charts.

₽,	Đ		AB-12		R	<u>ê</u> ø	AN AN	0	<u>ل</u>	5	´ 😭	Ľ^	1	¢		🔶 Page	1 ⊻ →	Þ	Today	Ŷ
#	Date/Time		De	vice Nam	ne		Behavi	or			Object N	ame	/ 1	Main Colo	or					
				m 007																
							Tripwire					Outpu, Filt								
											Person	C: navus	ers/CMX38	DB Report	41\2023081					
											Person									
												O By Ho		) By Week	OBy	Date				
												O Total								
												01	elect Comp		~					
												Please 5	elect Comp	sanson	~					
		12:58:42					Tripwire							OK		Cancel				

# Chapter 15.2 System Doctor Advanced Information

Provides more detailed monitoring of host and network usage status and resource usage functions.

P.	Do 🖺 🔤 Di 🖉 🗗 <table-cell></table-cell>	- 🖓 🙆 💸 🧕 🖏	er er [/ 🖂 (	🏷 🗲 Page 1 🗸	-> 🗗 Today 🗸 🗸		
#	Date/Time	#HDD Error	#CPU/RAM/NET	#Connect Chs	#Record Chs	Status	
1	2024/06/18 13:44:32	E:[0ms/Q:0/0%],	6/45/0.21,	(2+0)/0/146Kbps	(2+0)/Max(0+64)/148		
2		E:[0ms/Q:0/0%],		(2+0)/0/131Kbps	(2+0)/Max(0+64)/133		
3	2024/06/18 13:42:24		8/42/0.21,	(2+0)/0/131Kbps	(2+0)/Max(0+64)/133		
4				(2+0)/0/128Kbps			
5	2024/06/18 13:40:16	E:[0ms/Q:0/0%],	4/42/0.21,	(2+0)/0/133Kbps	(2+0)/Max(0+64)/135		
6		E [0ms/Q:0/0%],	11/42/0.21,	(2+0)/0/155Kbps	(2+0)/Max(0+64)/157		
7	2024/06/18 13:38:08	E:[0ms/Q:0/0%], db	Man				
8	2024/06/18 13:37:04	E:[0ms/Q:0/0%],			/146		
9	2024/06/18 13:36:00	E:[0ms/Q:0/0%],	System start time: 2024/0	6/18 11:19:46	/168		
10	2024/06/18 13:34:56	E:[0ms/Q:0/0%],	System Sart Sime. 2004/00/10 11:59-40         1677				
11	2024/06/18 13:33:52	E:[0ms/Q:0/0%],					
12	2024/06/18 13:32:47	E:[0ms/Q:0/0%],					
13	2024/06/18 13:31:43	E:[0ms/Q:0/0%],					
14	2024/06/18 13:30:39	E:[0ms/Q:0/0%],	Network avg received:155Kbps, queue:0, flow: 2/max:953Mbps, busy count:0				
15	2024/06/18 13:29:35	E:[0ms/Q:0/0%],	Network[1]:[Queue: 0/	Trans:2/max:953Mbps]	(123		
16	2024/06/18 13:28:31	E:[0ms/Q:0/0%],	Network[2]: Remote Client connected	: 19-0, Live:18, Playback:0	/131		
17	2024/06/18 13:27:27	E:[0ms/Q:0/0%],	Remote client read:0Kbps	s, write:0Kbps, real out:0Kbps,	/134		
18	2024/06/18 13:26:23	E:[0ms/Q:0/0%],	Free Disk:2633GB, Total D Current Record disk:E:	Disk:2794GB, avg record:157KBps	122		
19		E:[0ms/Q:0/0%],	Disk E:[Avg.Trans:0ms/	Queue:0/Usage:0%]	/136		
20		E:[0ms/Q:0/0%],			/134		
21		E:[0ms/Q:0/0%],			理定  /135		
22		E:[0ms/Q:0/0%],			/119		
23			14/43/0.42,	(2+0)/0/122Kbps	(2+0)/Max(0+64)/124		

# Chapter 16 Multiple Monitors

Multiple monitors support is a native feature in Windows 7 or higher. This feature allows you to view different applications of Navigator on separate monitors.

← s	ettings				- 0 >		
	NAV Local Account	System > Display					
Find	a setting Q	Select a display to change the set	tings for it. Drag displays to re	earrange them.			
	System			1			
۲	Bluetooth & devices		3	2			
-	Network & internet			a.			
1	Personalization		4	1			
*	Apps		4	1			
-	Accounts						
0	Time & language			Identify	Extend desktop to this display $$		
•	Gaming	Multiple displays					
X	Accessibility	Multiple displays Choose the presentation m					
	Privacy & security						
0	Windows Update Remember window locations based on monitor connection						
		Minimize windows	when a monitor is disconnect	ed			
		Ease cursor movem	ent between displays				
		Detect other display			Detect		

**Note:** 1. NVIDIA standard two graphics cards support up to 4 outputs (**Attention!** The more channels, the more CPU resources are consumed)

2. The latest Windows 10 version 21H2 and the new graphics card driver can support up to 6 outputs. For more information, please contact the original manufacturer technical support.

3. When there is an external NVIDIA graphics card and the motherboard has Intel built-in graphics card, it is recommended not to mix the screen output, and use the external graphics card as the main.

### Chapter 16.1 Navigator Multi-Screen Matrix Output

The Navigator can support up to four screen outputs, including one main monitor and three sub-monitors. Once the display card is properly installed, click on "**Multi-monitor output**" to display all connected and detected screens.

Once all the screens are properly connected, please click "**Identify Monitor**" to display the respective number on each screen.



The multi-screen output function is detailed below

- Quad display: Navigator can squeeze four 36 channel views into one large LCD screen
- Default group: the group to be shown on the main monitor.
- Default window division: the default number of split views.
- Auto minimize division: auto minimize division.
- Low CPU usage mode: enable I frame to reduce CPU load
- Alarm Ack Monitor: Customize to display alarm acknowledgment main monitor or sub-monitor.

# Chapter 16.2 Alarm Acknowledgement

You can cancel the alarm acknowledgement on any screen that displays an alarm image. Before you manage the camera, you must first click confirm to clear an alarm.



Note: To enable the acknowledgement function, click Alarm ACK in the alarm output management list.

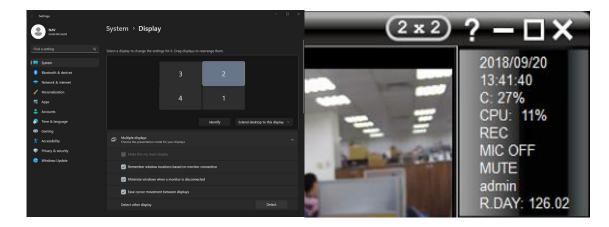
### Chapter 16.3 Notify Navigator on Another Computer

Third-party software can enable or disable videos on the alarm acknowledgement monitor using the CGI commands provided by Navigator. See HTTPAPI.PDF on our website for more details

### Chapter 16.4 Navigator Software 2x2 Video Wall

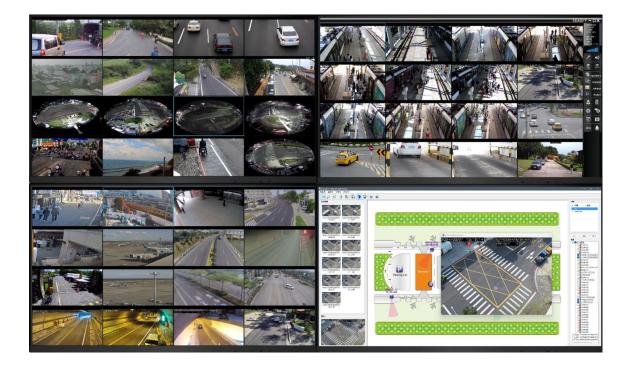
Four of the six monitors supported by Navigator can form a 2x2 video wall.

Go to Control Panel→Display→Screen Resolution to combine four 1920*1080 monitors to create a 3840*2160 resolution video wall.



After you finish with the settings, a 2x2 icon will appear at the top-right corner of Navigator, which supports three windows consisting of thirty-six split views and one eMap view.

**Note:** The Windows main screen display must be set in the upper right corner to properly display the 2X2 position

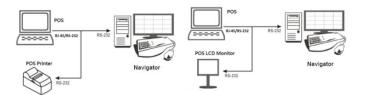


# Chapter 17 Retail and Distribution Business Solutions

When connecting to a Point of Sale (POS) terminal ready, Navigator can retrieve POS transaction data, which will be displayed on live video and video playback. Navigator also provides smart transaction search for specific video clips.

### Chapter 17.1 Retail POS Application

Navigator listens to the ASCII output of a POS system via an RS-232/COM serial port. Check if your POS LCD or printer is compatible with ASCII or printer output for ASCII data of your POS system. Consult your POS provider for more details.



Please refer to the figure below to connect RS-232 RX/TX wires, a POS register/terminal, and Navigator host.

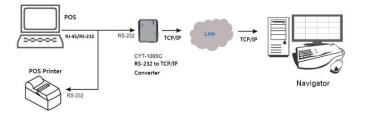


To connect more than one POS terminals, add more RS-232/COM ports into the Navigator host.

### Chapter 17.2 POS Connection via TCP/IP for Retail Business

Navigator can connect to an RS-232 POS system through the network using a CYT-100SC RS-232 to TCP/IP converter. The driver disk enclosed in the box of CYT-100SC provides a RS-232 to TCP/IP conversion driver that allows you to establish a virtual COM port on a Windows-based PC. The virtual COM port can be adopted by Navigator to communicate with the POS system.

Chapter 17.3 POS system and Navigator Connection Test



After establishing the connection between the POS system and the Navigator host, please use HyperTerminal or other applications with the same function to test and verify whether the Navigator can capture the POS data

After the connection between the POS system and the Navigator host is established, use HyperTerminal or other alternative applications to test and verify whether the POS data can be captured by Navigator.

Edit View Col	l Iranska Rub	
	\$1.3	
	\$1.3	
Subtotal	\$2.6	
Cash	\$10.00	
Change	\$7.4	

# Chapter 17.4 Link POS to a Camera Channel

To link a POS system to a camera channel, click Properties and choose ePOS/OSD to open the POS Setting dialog box.

🌭 POS setting OSD View Setting OSD View Numbe Serial Port Printer Type Device: Empty Mapping Camera Camera 115 POS Module COM Port Empty 9600,8,None,1 Input Device Normal POS Text Force Carry Return Empty Text Alignment Bottom right corner Line Size: 16 Keep Time 30 Seconds Font Settings OK Cancel Replace Setting

In POS Setting, please specify the following information to capture POS transactions.

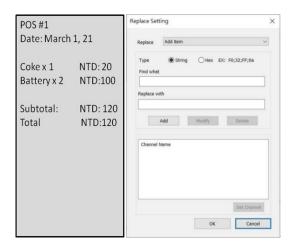
- OSD View Setting: the setting can arrange the POS OSD (text) on top of the camera.
- Force Carry Return: For some of the POS printers, these printers might output 80 characters without carry return. Force Carry Return setting is to force carry return into NAV recorder.

Once the above information is set correctly, Navigator will capture and display POS transactions on live video.



### Chapter 17.4.1 POS Replace Setting

Replace setting is to replace the captured POS text, see picture below:



- String: The setting is to replace the captured "POS#1" wording from the POS machine with "My Camera". A user can enter "POS#1" in the "Find what" field and enter "My Camera" into the "Replace with" field.
- Hex: The setting is to replace the captured POS hex token from the POS machine. For EPSON printer, the ASCII: LF (oct) and hex (0A) is the carry return for the printer. A user can filter out the token "0A" in the "Find what" field and enter ""(space) into the "Replace with" field.

### Chapter 17.5 POS Transaction Playback

Navigator supports video playback with associated onscreen transaction data. When you choose a POS transaction entry of any time, the video clip of that transaction will be played from that time.

### Chapter 17.6 Search POS Transactions

To search a particular transaction entry such as amount of product, product name, subtotal, or total, you can enter search keywords in the Condition search box. Transactions containing the keyword will be displayed on the screen. You can click any of the search items to playback the videos.

### Chapter 17.7 Scanner Connection for Logistic Business

Barcode scanners are widely used in logistic business. When connected to a PC via a PS/2 connector, this device works as an input tool that reads numbers of 0–9 and sends the information to Navigator.

To use a barcode scanner in the transaction process, connect the scanner to the PS/2 port on your PC and choose Barcode Scanner in POS Setting. Information read by the scanner will be sent to this camera. Only one barcode scanner can be connected to one PC.

To search for data corresponding to the barcode scanner, refer to POS Transaction Playback and Search POS Transactions for more details.

# Chapter 18 Mobile Device Support

To meet your mobile surveillance requirement, we provide a mobile version of Navigator that supports iOS and Android devices. You can download IPVideo in App Store or Google Play for your iPhone, iPad, and other Android devices. (Please refer to the user manual on your mobile device for more information.)



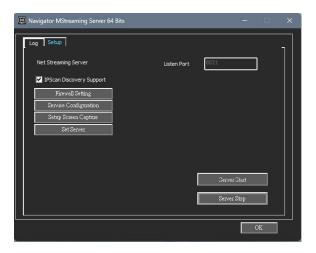
# Chapter 19 Navigator Software Streaming Client & Server

Navigator's built-in software server allows video streaming to Navigator clients. Live streaming to clients may reduce CPU load of the IP camera.



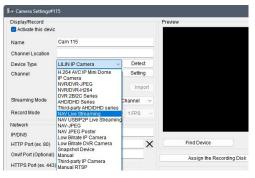
## Chapter 19.1 Navigator Streaming Server

To enable the streaming function of Navigator, you may either check Streaming Server in the Network tab in System Settings and specify the port number therein, or go to Start-All Programs-Navigator-Streaming Server.



Chapter 19.2 Navigator Software Streaming Client

To connect to a Navigator live streaming server as client, click Properties and select Navigator Live Streaming from the drop-down list in Device Type. Then, enter the IP address and port number of the Navigator streaming server.



66-UM-NAV5.0-OE-9

## Chapter 19.2.1 Navigator Firewall Mode Setting

When the Navigator MStreaming Server opens the port, the user can add or modify the black and white list to block the connection of the device outside the specified IP or IP location range, which can improve the server's security and loading.

Firewall Setting	Add or Modify IP list X
Firewall Mode  Firewall Mode Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewall Mode  Firewa	Add or Modify IP list  Assign IP Address To Compare  This IP Address To Compare  This IP Address: 192.168.0.12  IP Range: 192.168.1.0/24  IP Range: 192.168.1.*  This IP Address Range FROM  FROM
OK Cancel	TO Cancel

## Chapter 19.2.2 Navigator Service Settings

By using the tree diagram management, the host can connect to more than 4,000 NAV recording hosts at the same time, and manage more than 60,000 various connected devices. Through the internal network or INTERNET connection, real-time monitoring, management, setting and information storage of the remote NAV recording host can be performed through simple settings. And it can live display and analyze NAV recording host and equipment real-time image, video data, running status, operation information and various alarm IO/GPS/POS/license plate information.

**Note:** Make sure that each NAV host has our Navigator and Control Center installed.



- 1. In the lower right of the computer toolbar, click on Streaming Server 64 bit and then left click on it.
- 2. Click on Settings and click on Service Configuration

Navigator MStreaming Server 64 Bits		-					
Log Setup							
Net Streaming Server	Listen Port	8021					
IPScan Discovery Support							
Firewall Setting Service Configuration							
Setup Screen Capture Set Server							
			Navigator MS	treaming Server	64 Bits		
		Server Siari					
		Server Stop		 () P2P	5	-	
		0	к 1				
					~	<b>⊑</b> ¶ ¢)	09:59 2023/6/7

- 3. Check Enable Navigator Control Center
- 4. Select Server  $\ulcorner$  Control Center Service  $\lrcorner$  .
- 5. Select Service Type: Navigator Control Center service
- 6. Create Chinese/English Verification Code and Service Code
- 7. Click on Setting

"Easy Mode" is checked by default, and the verification code and service code are skipped. Just login the account and password, to connect to the central control tree diagram device.

Service Configura	tion			×
🔽 Enable Navigator	r Control Center 📃 Easy Mode			
Local Host		Parents		
Local Host Name	Daniel Rec Server	01: Control Center		
GUID	2CEC8412-2046-4869-9944-2E4883BB3A93	Service Name	Control Center Service	
Verification Code		Service Code	1234567890	
IP	192.168.3.20	Service Type	Tree structure mode	$\sim$
			None Service Tree structure mode	
IP	::1			
Lazy Sync Targe				
🗹 Lazy Auto Sync	Initiator	Auto Configure	Setting	Delete
Group Name		Allow automatic p	provision of services	
Group Type	Disable	Allow remote ctrl	I to reboot NAV/NCC system	
			ОК	Cancel

• Auto Configure: When the Easy Mode is turned on, directly click "Auto Configure", and it will automatically be carried into the open server center mode, Control Center TVWall screen mode, and parallel permission mode

#### Chapter 19.2.3 Navigator Screen Capture Streaming Setting

Open the screen capture streaming server settings, to provide other servers capture real-time desktop images

- Enable Screen Capture Streaming: Open screenshot streaming server settings.
- Enable Intel GPU encoder: Enable Intel CPU software decoding function.
- Enable Nvidia encoder: Enable Nvidia GPU hardware decoding function.
- Image Quality: The higher the quality, the more refined the picture.
- Max Frames Per Second: Channel picture refresh rate per second.
- Monitors to capture: Select the monitor to capture.

etup Screen (	Capture							
Enable S	Green Capt	ure Streamin	g					
🔲 Enable I	ntel GPU en	coder						
📃 Enable N	lvidia GPU e	ncoder						
		49						
Image C	įuality: 2	49						
Low	<u>, 1 - 1 - 1</u>	16 - 18 - Si	- 3 - 3i	5 S.	i i i	<b>i</b> 2 <b>i</b> 2 2	· • •	High
	- 22							
Max Fra	mes Per Sec	ond: 16						
Low	-					899 		High
-Monitors to	capture —							
<b>1</b>	2	✓ 3	<b>V</b> 4	5	<b>V</b> 6	7	<b>V</b> 8	9
16								
				đ			T	
					OK			Cancel

## Chapter 19.2.4 Navigator Setup Receiver

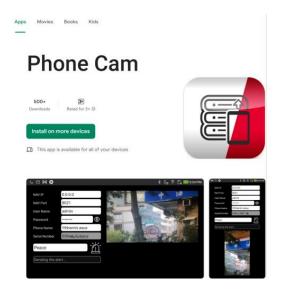
The mobile app Phone Cam supports real-time video uploading to NAV. It can be used to transmit recordings and store video recording immediately in the event of a fire or traffic incidents.

Its main features include:

- Supports Android, iPhone mobile phones.
- Supports up to four mobile phone connections.
- Fast upload to server for live image refresh.



Chapter 19.2.5 Before Start Using the Navigator Mobile Phone Receiver



Chapter 19.2.6 Navigator Server Setting

1. Lower right corner of the desktop -> Open Mstreaming Server



2. Setup -> Set Server -> Select Server01 : Public Server -> Check [「]The device is in use 」.

	Setting ×
🖼 Navigator MStreaming Server 64 Bits — 🛛 🗙	Server
Log Setup	The device is in use
Net Streaming Server Listen Port 8021	Save the server information
IPscan Discovery Support     Furwell Stituig     Service Configuration     Setup Scene Capture     Set Berver     Set Berver     Set Setup	Device Name Serial Number of the Phone Usage
OK	Delete a device Exit

Note: Public Server represents public images.

3. Set NAV channel to NAV JPEG Poster connection mode. (Server001 is the default public images.)

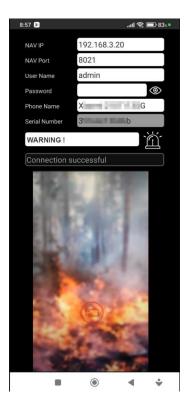
					2	- 0 ×
			Cem 002	fee		2024/05/17
						17/29/25 05% CPU 15% REC MIC OFF MUTE admin R DAY: 3.11
						aattiill
ã+ ⊂ Carvera Settin	011001		×			× •)
DisplayRecord		Preview	1010		-	
Activate this						
tiame	Cam 001					IN UPP
Channel Locati	on				24	Application
Device Type	NAr JPEG Poster Unter					
Channel	Server 001 Setting				4	占 Grouping
Cem 004	Server 002(Disable) Import			Carr	m 006	
Streaming Mod	P Server 003(Disatie)					Window
Record Node	Server 004(Disable) Server 005(Disable) 11FPD				1	> Rashar
Record File Typ	e vinterval (Min) 1				-	Playbac
Network						. 🖻
PDNS	127.0.0.1					· ·
HTTP Port (ec.	a) 0021 X	Find Device	Video			-
On if Pot (Option		Assign the Recording Disk				© *0
HTTPS Part/ex	443) 443	Assign the Recording Disa				-
Video Port	0021	Auto switch the audio	Alarm Management			<u>v</u>
Username	edmin	ONVE	ePOSIOSD			
Password					s	EQ 🚔
Cameraid 5 (2)		Alarm Input (D): 1	ANPR Group Setting			
		Relay Output (DO): 1	Object Counting			
III dytechnolae	Time with PC Repty		Facial Recognition			
	dient and server contection 0.00 FPG		and the second second	Carr	m 069	
			Advance Privacy Mask/OSD			
			OK Caroli			
Rebot	Savice Launch Browser		UK Cator			

4. Later, an exclamation point icon will appear in the JPEG Poster mode connection, which means success.

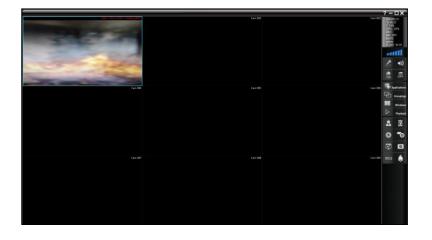
If you want to replace the idle picture, please go to the directory and replace C:\navusers\defaultposter.jpg.



5. Run the mobile app "Phone Cam" and click on the center of the screen to capture real-time images If the NAV receives the feed successfully, "Connection successful" will be displayed.



6. NAV will receive the live image feed from the mobile phone and automatically record the video.



7. Return to the server settings, you can see that the Public Server has a group of mobile phones currently connected. Since it is in public image mode, If too many users' mobile phones are connected to transmit back to NAV images, confusion may occur.

Setting					×
F接收器	er01: Public Server				
<b>▼</b> \$	。備使用中			儲存接收器資訊	
#	設備名稱	手機序號	使用狀態		
1	Xiaomi+2107	bb			
副院	設備			離開	1

8. Set NAV channel to NAV JPEG Poster connection mode. (Server002 is private images.)

攝影機設定#002					
顯示/記錄 🔽 啟用此裝置				預覽	
攝影機名稱	Cam 002				
攝影機地點					
装置型號	NAV JPEG Poster	~	偵測		
頻道#	Server 002(Disable)	~	設定		
選擇串流模式	Server 002(Disable) Server 003(Disable) Server 004(Disable) Server 005(Disable)		轉入		
		_			
錄影模式	主串流錄影	~	1 FPS ~		
網路 IP/DNS	127.0.0.1				
IP/DNS 網頁埠(ex. 80)	8021		×	尋找裝置	影像
Onvif埠(選填)	80			指定硬碟後影	
HTTPS Port (ex. 443)	443			ゴロノニリビロ来る東京の	
影像通訊埠	8021			🗌 自動語音切換	警報管理
使用者名稱	admin			ONVIF	ePOS/OSE
密碼	•••••		0	装置類型:	市 1000年2月1日の
攝影機或485 ID	1		~	警報輸入(DI):	車牌群組設?

9. Return to the server settings, select the connected mobile phone and save the server information.

Setting					×
<b>₩</b> Th	r er02: Private Serve e device is in use e is bind and	r Disable			~
#	Devic	e00: Name:X		Save the serve	er information
1	)	b	Jage		
Delete	a device				Exit

10. NAV will receive the live image feed from the mobile phone and automatically record the video.



11. The POS database can query historical records.



#### Chapter 19.3 How to set Mosaic TV Wall

In second group, please set the service type to Navigator TV Wall service, select Setting and TV Wall set up is complete.

When host has multiple monitors, one server group can only set one Mosaic TV Wall Server, assuming there are 2 monitors, server group 3 have to set second group monitor.

03: TVWall Service #	1		~	
Service Name	TVWall Service #1	1		
Service Type	Control Center Mo	sicTVWall	~	
	#1: Position(0, 0),	, 1920*1080	~	
Auto Load TW V	#1: Position(0, 0), 1920*1080 #2: Position(-1920, 0), 3840*2160 #3: Position(1920, 0), 1920*1080			
		100	iory rioritor	
Auto Configure		Setting	Delete	
		ОК	Cancel	

Please select Identify Monitor, and the screen will prompt the number for the user to confirm.

Service Configuratio	n		The state of the second s
Enable Navigator C	ontrol Center 🔽 Easy Mode		
Local Host		Parents	
Local Host Name	DANIELAPO 5F	03: TVWall Service #1	
GUID	B9/ 131	Service Name TVWall Service #1	
Verification Code			
IP	192.168.3.20	Service Type Control Center MosaicTVWall  #1: Position(0, 0), 1920*1080	
IP	fe80:: <del>11e</del> c:62b0:261b:d72	# 1: Position(0, 0), 1920"1080	
🔽 Lazy Sync Target		Identify Monitor	
Lazy Auto Sync Ini	tiator	Auto Configure Delete	
		Allow automatic provision of services	
Group Name	Disable V	Allow remote ctrl to reboot NAV/NCC system	The second secon
Group Type	Disable		
		<u> </u>	
		OK Cancel	
7.			
Service Configuratio	n		
Service Configuratio			
	ontrol Center 🗹 Easy Mode	1 Parents	
Enable Navigator C	ontrol Center 🔽 Easy Mode	Parents 04: TYWall Service #2	
Enable Navigator Co	ontrol Center 🗹 Easy Mode	1 Parents	
Enable Navigator Co Local Host	OMVIELAPO 9F         Image: Second Secon	Porents Det TWWall Service #2 V Service home TWWall Service #2	
Enable Navigator Cr Local Host Local Host Name GUID	ontrol Center	75x cnls           Ør: TWWall Service #2           Service Name           TWWall Service #2           Service Type           Control Center Mosaic/TWWall	2
Cal Host Navigator Ci Local Host Name GUID Verification Code	OMVIELAPO 9F         Image: Second Secon	Porents DRTIWall Service #2 V Service hame TWall Service #2	2
Enable Navigator Cr Local Host     Local Host Name     GUID     Verification Code     IP	ontrol Center	75x cn/5           Bit TWWall Service #2           Service Name           TWWall Service #2           Service Type           Control Center MosaicTWWall           #2: Position(-1920; 0); 1920*1080           In Auto Load TW Wall Service	2
Enable Navigator Ci     Local Host     Host Name     GUID     Verification Code     IP     IP     Zazy Sync Target	OANTELAPO 5 [±] Image: Classy Mode           DANTELAPO 5 [±] 31           99         31           192:168.3.20         1           fe80::44ec:6200:2610:d72         1	Por ents           Ør: TWall Service #2           Service Name           TWWall Service #2           Service Type           Control Center Mosaic/TW/all           #2: Position(-1920, 0), 1920*1080	2
Enable Navigator Ci     Local Host     Local Host Name     GUID     Verification Code     IP     IP	OANTELAPO 5 [±] Image: Classy Mode           DANTELAPO 5 [±] 31           99         31           192:168.3.20         1           fe80::44ec:6200:2610:d72         1	75x cn/5           Bit TWWall Service #2           Service Name           TWWall Service #2           Service Type           Control Center MosaicTWWall           #2: Position(-1920; 0); 1920*1080           In Auto Load TW Wall Service	2
Enable Navigator C Local Host Local Host Name GJID Verification Code IP IP IP IC Lary Sync Target Lary Auto Sync Ini	OANTELAPO 5 [±] Image: Classy Mode           DANTELAPO 5 [±] 31           99         31           192:168.3.20         1           fe80::44ec:6200:2610:d72         1	Parents       ØR: TWWall Service #2       Service Name       TWall Service #2       Service Type       Control Center MosaicTW/Jall       #2: Poston(-1920, d), 1920*1080       # Auto Load TW Wall Service       Identify Mosator       Auto Configure       Setting       Delete	2
Enable Navigator C Local Host Local Host Local Host GUID Verification Code      P      D     Lazy Sync Target     Lazy Sync Target     Group Name	OAVEELAPO SF         ■           99         131           192.168.3.20         192.168.3.20           fe80::44ec:62b0:26 lb:d72         ■           bator         ■	Parents       Bervice Name       TWall Service #2       Service Type       Control Center MesaicTW/Jall       #2: Poston(-1920, 0), 1920*1080       # Auto Load TW Wall Service	2
Enable Navigator C Local Host Local Host Name GJID Verification Code IP IP IP IC Lary Sync Target Lary Auto Sync Ini	OANTELAPO 5 [±] Image: Classy Mode           DANTELAPO 5 [±] 31           99         31           192:168.3.20         1           fe80::44ec:6200:2610:d72         1	72x cn/s       Bit: TWWall Service #2       Service Name       TWWall Service #2       Service Type       Control Center MosaicTWWall       #2: Poston(-1920; 0); 1920*1080       # Auto Load TW Wall Service       Auto Configure       Serting       Delete       Auto Configure       Serting	2
Enable Navigator C Local Host Local Host Local Host GUID Verification Code      P      D     Lazy Sync Target     Lazy Sync Target     Group Name	OAVEELAPO SF         ■           99         131           192.168.3.20         192.168.3.20           fe80::44ec:62b0:26 lb:d72         ■           bator         ■	72x cn/s       Bit: TWWall Service #2       Service Name       TWWall Service #2       Service Type       Control Center MosaicTWWall       #2: Poston(-1920; 0); 1920*1080       # Auto Load TW Wall Service       Auto Configure       Serting       Delete       Auto Configure       Serting	2
Enable Navigator C     Local Host     Local Host     Local Host     GUID     Verification Code     IP     P     Z     Lazy Sync Target     Group Name	OAVEELAPO SF         ■           99         131           192.168.3.20         192.168.3.20           fe80::44ec:62b0:26 lb:d72         ■           bator         ■	72x cn/s       Bit: TWWall Service #2       Service Name       TWWall Service #2       Service Type       Control Center MosaicTWWall       #2: Poston(-1920; 0); 1920*1080       # Auto Load TW Wall Service       Auto Configure       Serting       Delete       Auto Configure       Serting	2

#### Chapter 19.4 Auto set TV Viewer Setting

Check Auto set TV viewer setting, Mosaic TVWall is automatically evoked when Control Center is turned on.

Note: You may set each TV Wall server group to automatically evoke or not.

Service Configurat	tion			×
🔽 Enable Navigator	Control Center 🔽 Easy Mode			
Local Host		Parents		
Local Host Name	Daniel Rec Server	02: TVWall Service	: #1	
GUID	2C 93	Service Name	TVWall Service #1	
Verification Code		311		
IP	192.168.3.20	Service Type	Control Center MosicTVWall	$\sim$
IP	::1	Auto Load 1	#1: Position (0, 0), 1920*1080	
🔽 Lazy Sync Targe	et		Identif	y Monitor
🗹 Lazy Auto Sync	Initiator	Auto Configure	Setting	Delete

#### Chapter 19.5 Easy Mode

Check Easy mode and apply Auto Check, will automatically skip verification code and service code, this will enable to import Control Center Service and TV wall mode easily and quickly, click on Setting to complete easy setting.

**Note:** When a main host has many monitors, will automatically be carried into all present connected screen settings.

Service Configura	tion			×
Enable Navigator	Control Center	🗹 Easy Mode		
Local Host Name	Daniel Rec Server		02: TVWall Service #1 01: Control Center Service	×
GUID Verification Code	2(		01: Control Center Service 02: TVWall Service #1 03: TVWall Service #2 04: Management Service	
IP	192.168.3.20			
IP	::1		08 09 10	
Lazy Sync Targe	et			Identify Monitor
🗹 Lazy Auto Sync	Initiator		Auto Configure	Setting Delete
Group Name			Allow automatic provision of	
Group Type	Disable			in prec system
				OK Cancel

Chapter 19.6 Easy Mode Advanced Function

- Lazy Sync Target: Easy mode, automatically synchronizes the target.
- Lazy Auto Sync initiator: Easy mode, automatically synchronizes enable.
- Allow automatic provision of services: Allows automatic service activation.
- Allow remote ctrl to reboot NAV/NCC system: Allows remote reboot of the NAV/NCC server.

# Chapter 20 Automatic Number Plate Recognition (ANPR)

Navigator AI Number Plate Recognition (ANPR) can support features including denial list and allowed list for gate control automation or city surveillance purposes. The purpose of denial list is to prevent unauthorized vehicles entering an area, thus the system can pop up a window for alarm notification, whereas allowed list can provide access to the area by opening the gate. Our Navigator ANPR license plate recognition can also set exclude list to increase the recognition rate.

Features of AI Number Plate Recognition Engine

- Support up to 1080P resolution at 48 FPS.
- Support 2/4/6/8 channels recognition via Navigator.
- Each channel can recognize up to 6 car plates.
- Support group denial list, allowed list and exclusion list setting.
- License plate character size and license plate character length can be set.
- Support real-time and video playback identification display.
- Support for license plate JPEG snapshots.
- Support our IO Box interfacing external devices for gate control.
- Support database synchronization for denial list and allowed list.
- Support up to 200 km recognition speed.
- Support HTTP SDK integration.
- Support Navigator.

## Chapter 20.1 Before Using This AI Engine

Please read our IP camera user manual for operating the camera. This user manual only focuses on the AI Engine feature of the software. Al Engine software is a demo program that allows you to verify recognition results, after our AI Engine is properly installed.

#### Chapter 20.2 Caution

Do not use the number plate recognition system with the gate or barrier control for vehicle speed over 10KM/h or 6MPH due to recognition rate limitation. This will cause a vehicle crash or accident to the gate or barrier control.

#### Chapter 20.3 Windows Version 10&11 Cycle Data Table

Different Windows versions may not be able to upgrade the code. It is recommended to download and install the latest code and Win 10 professional version from the Microsoft website.

System	Version	Official code	Release date				
Win10	1909	19H2	2019/11/12				
Win10	2004	20H1	2020/05/27				
Win10	20H2	20H2	2020/10/20				
Win10	21H1	21H1	2021/05/18				
Win10	21H2	21H2	2021/10/05				
Win10	22H2	22H2	2022/10/18				
Win11	21H2	22H2	2022/09/20				
Win11	22H2	22H2	2023/01/20				
Win11	23H2	23H2	2023/11/11				
Format :	Old v	version is not recomme	ended 📃 Old version,still supported Standard Version				
Standard version The latest preview version							

## Chapter 20.4 Windows Version Corresponding Graphics Card Series

It is recommended to use the latest version of Windows code, so no need to worry about matching graphics card driver version.

	Standard Vide	eo Card Compatible With Windows Version			
NVIDIA Chip	Windows 10/11	NVIDIA Graphics Card Model No. (Supports super*Ti)			
architecture					
Pascal	V. 1607or later	10 Series:GT1030,GTX1050,GTX1060,GTX1070, GTX1080,TITAN X/XP			
Turing	V. 1709or later	16 Series:GTX1650&1660			
		20 Series:RTX2060&2070&2080,Titan RT			
		Quadro Series:RTX 4000,5000,6000,8000			
		Tesla Series: Tesla T4			
Ampere	V. 1803or later	30 Series:RTX3050,3060,3070,3080,3090			
Ada Lovelace	V. 21H2or later	40 Series:RTX4060,4070,4080,4090			
Format : 📕 Graphics	card is not recomme	ended 📃 Minimum specification 2CH			
Standard	specification 4CH	Highest specification 8CH			

## Chapter 20.5 Install CUDA driver

The current AI version is 11.2. Before using AI Engine, remember to install the CUDA 11.2 installation file first. It is recommended to update the graphics card driver to the latest version, usually with a backward compatible version number.

CUDA Toolkit	Minimum Required Driver Version for CUDA minor version compatibility*					
CUDA 11.7	>=517.40					
CUDA 11.2.0	>=461.33					
CUDA 10.2.89	>=441.22					
Format : CUDA Discontinued version CUDA Old version CUDA Latest version						

#### Chapter 20.6 CUDA Version Compatible with Graphics Card Series

Use the CUDA version with compatible graphics card series, otherwise the AI Engine system will not work properly.

	CUDA Version and Graphics Card Combination								
CUDA Version	Graphics Card Series	NVIDIA Graphics card model (Support super*Ti)							
CUDA 10.2	16 Series	GTX1650&1660							
	20 Series	RTX2060&2070&2080, Titan RT							
CUDA 11.7	Quadro Series	RTX 4000,5000,6000,8000							
000/(11./	Tesla Series	Tesla T4							
	30 Series	RTX 3050,3060,3070,3080,3090							
	40 Series	RTX 4060,4070,4080,4090							
Format : 🔲 Not	recommended CUDA	10.2 CUDA11.2 CUDA11.7							

#### Chapter 20.7 OpenVINO[™] Compatible with GPU Model Series

If an Intel integrated GPU is used, our ANPR AI series products have a built-in OpenVINO[™] driver. After installing our ANPR AI series, please enable OpenVINO GPU in the system settings.

The CPU i7-level is recommended, must have a GPU internal display to enable the OpenVINO function.

Intel CPU code explanation:

- Suffix letter K: High performance overclocking and support internal display at the same time.
- Suffix letter F: No internal risk.

**Note:** OpenVINO is no longer supported.

OpenVINO™ and GPU Model Series Combination									
Intel Mode	Intel GPU								
I7-7700/K	HD630								
I7-8700/K	UHD630								
I7-9700/K	UHD630								
I7-10700/K	UHD630								
I7-11700/K	UHD750								
I7-12700/K	UHD770								
Format : Not recommended	Supported Recommended Specification Latest Specification								

## Chapter 20.8 AI Engine Compatible Graphics Card Series

To use the AI Engine version, the compatible graphics card series must be used, otherwise the AI Engine system will not work properly.

AI Engine Version and Graphics Card Series Combination							
Graphics Card Series	AI EngineVersion						
20 Series	AI Engine 1.0.7.152						
30 Series	Al Engine 1.3.0.152						
40 Series	Al Engine 1.3.0.152						
Format : 20 Series Graphics	Card 30 Series Graphics Card 40 Series Graphics Card						

Chapter 20.9 AI Engine Back-end License Plate Recognition Settings

The AI Engine channel needs to correspond to the Navigate channel. For example, the 1st channel, click on the Alarm icon settings -> ANPR Setting -> check the Enable ANPR.

Channel 1		~	Filter >	FOV(%)	100	
Camera name			Filter <	FOV(%)	0	
ANPR Setting		Traffic Management		Car Make	9	Human Detection
Enable ANPR						
Confidence(%) >	30					
Min characters	4					

#### Chapter 20.10 Navigator Software Setting for AI Number Plate Recognition

Click R Navigator software and select camera properties. Click on ANPR Group Setting and make sure that the communication of AI Number Plate Recognition is at 8592 port.

- Enable service: Enable AI Engine & AI function.
- Enable watch dog service: Automatically watch dog detection mode.



Please click the camera settings button or the right mouse button on the channel to enter the properties page. Please check "ANPR Detection" option in the "Alarm Input Management" item of the alarm management page. After checking this item, click "Options" to enter the settings.

• Camera Properties->Alarm Management->Click on ANPR Detection

Condition#1	Condition#2 Con	dition#3 Condition#4	Others		
larm Input M	anagement	Alarm Output (DO)			
Motion Dete	ection /		^	00 01 02 03 04 05 06 07 08 09 1	0 11 12 13 14 15 16 17 18 19 20 21 22
NAV CGI Tr		Send E-mail		Sunday	
Video Loss	Detection surement Detection	Signal Digital Output		Monday	
ANPR Dete		Alarm Full Screen		Tuesday	
URLoae de	rection	Post-alarm Record		Wednesday	
] Temperatur		Pre-alarm Recording		Thursday	
🗌 Aida Behav	or Detection		~	Friday	
	>	<	>	Saturday Saturday	
	Options	Options		<ul> <li>Enable</li> </ul>	Apply All Schedule
Enable Alari	m Input (DI)	Pre-alarm Dwell (Sec)	1 ~	Close	
AND Logic	Varm Notification	Alarm Output Dwell (Sec)	5 ~		
etection Dwe	II (Sec)	The Next Alarm Output Dwe	II 5 Sec ~		
Use the Not		(Min)			

**Note:** When using Navigator VMS and AI Engine, there is no need for opening AIEngine.exe for saving CPU usage.

#### Chapter 20.11 License Plate Character Height Adjustment

The maximum and minimum length of characters to identify the license plate can be defined according to the requirements of license plates in different countries, which can shorten the time of the license plate search engine.

Country:					
Plate Range				24,1	1,649,3
The length of the number plate characters	s Min	4	•	Max	9

#### Chapter 20.12 ANPR System List Setting

Each group of license plates can be set as a group, for example, preset groups such as "white list", "denial list" or "exclusion list". It is also possible to add a group and specify its function application group, and set the corresponding output after the license plate is detected.

To set license plate group, click "License Plate Group Setting". After entering the license plate database, create a group from the list according to the ownership of the license plate, trigger the alarm with this group, and other settings:

				ANPR	Group Settings							
isplay/Record		Preview										
Activate this devic										Group Nan	10	
lame Cam	121			Licer	ise Plate			Det	ail			Modify
Channel Location			10	Grou	p Number				~			mouny
Device Type IP Ca	amera v De	ect Constant										1
Channel Cam	001 - Set		-							#	Group Name	
	Auto Import NVR	Troor	200							0	Exclusion List	
treaming Mode Dual				-	dd Modify	Delete	Impo	rt Exp	ort	1	Denied List Allowed List	
	I Streaming Mode for the Channe									3	VIP	
Record Mode Stop	Recording ~ 1 FP	s ~	BAR BAR BAR	#	License Plate	State/Provin	e G	roup Numb	er	4	VIP	
letwork		Contraction of the Contract		1/3	TTY8953	0	0			5		
P/DNS	militia tratance			2/3		0	2			6		
ITTP Port (ex. 80)	101	X Find Device	Video		6UHF124	0	1			7		
Invif Port (Optional)	100	- Assign the Recording	Disk							8		
(TTPS Port (ex. 443)	443									9		
lideo Port	554	Auto switch the audio	Alarm Management							10		
Isemame	admin	ONVIE	ePOS/OSD							11		
assword		Device Type: IP Cam	ANPR Group Setting							12		
Camera/485 ID	1	<ul> <li>Alarm Input (DI): 1</li> </ul>								13		
		Relay Output (DO): 1	Object Counting							14		
) Synchronize Time with P	PC As	ply	Facial Recognition							16		
Low bit rate client and se	erver connection 0.05 FPS		Advance:Privacy Mask/OSD									
				-						Show G	uest Visitor number plate	

#### Chapter 20.13 License Plate Import/Export List

Support import/export list report. The function displays license plate and vehicle information in the Excel CSV file format.

- 4	A	В	C	1	DE	F	G	Н	I	J	K	L	М
1	Number	Туре	Name	ID	TEL	Parking No	Door No	Address					
2	03		3 Esther	F0122	(714)8		NDO	00 1					
3	03 22		1 Abne	E024	(951) 4		9	.554					
4	66'		2 Jacob	H021	(559) 5		1	Knox	915 Casey Dr				
5	AE		1 Jet Li	A721	(626) 3	CA-9	2 JOO	.37 1					
6	AF		4 Chris	K010	(903) 9		HNO	Richt	536 Granite Ave.				
7	C8		2 Kazu	N202	(69) 88	TX-6	DX-3	·/-					
8	FM		1 Benja	K146	(706) 2		VNO	8 Sta	an Francisco	CA			
9	RC		2 Haile	U012	(310) 8		7300 HNO 5X-3 7N0 4300	Rand	an Francisco	CA			
10	TD		3 Ael	E100	03-806	TX-5	DX-2	No. 1	Aly. 2	Ln. 17	Shamei	Jinsha Township	Kinmen County 890
11		1.0						1					

#### Chapter 20.14 The Settings of AI Traffic Management

Click on Enable traffic detection for using AI traffic objects detections. For traffic behaviors, the behavior is defined in a traffic detection zone. There are four detection zones programmable for traffic objects. Follow the instructions below for setup.



**Note:** It is important to disable "Enable traffic detection", if traffic detection is not used to save CPU or VPU usage.

#### Chapter 20.15 Traffic Zones

Click on ± buttons for inserting or deleting a traffic detection zone. Once a detection zone gets added, drag the Anchor of the zone to fit the environment. There are up to 4 traffic zones for detecting the behaviors of traffic objects.



#### Chapter 20.16 Prohibit Zone Detection (Parking Violation)

To set up an alarm notification for an object entered the prohibited detection zone, please select the "channel" number for setting and key in the object names in "metadata". Add a detection zone to desired area. Tick on "Prohibit zone detection". Click "Apply" to save the settings.

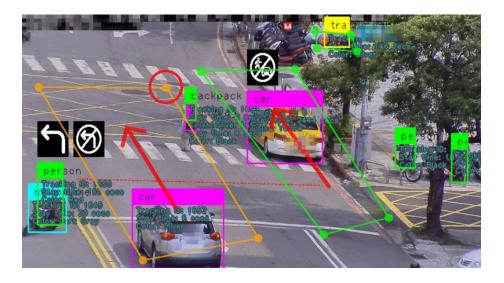
It can be used in applications such as prohibited areas for vehicles, i.e. large trucks entering the urban district.

- 1. Add or delete detection area
- 2. Select behavior detection
- 3. Parking violation identification status
- 4. Enable the metadata, car, truck, SUV, etc for detection
- 5. Set the dwell time to detect the violation time

□は頭圜次令<>	? -	>
Channel     -     Filter > FOV(%)     100       Carmera name     Filter < FOV(%)     0       ANPR Setting     Traffic Management     Car Make		
If Enable traffic detection         Confidence (%) >         15         Detection zone         Enable direction         Enable direction         Enable traffic light         Enable traffic light         Car, Bus, T         Image: Car, Bus, T <t< th=""><th>THE STATE</th><th></th></t<>	THE STATE	
Parking Set Output		
	Apply	

## Chapter 20.17 Queuing Detection

To set up an alarm notification for the number of objects entered the detection zone reached the maximum occupancy, please select the "channel" number for setting and select the object names in "metadata". Add a detection zone to desired area. Tick on "Queuing detection" and key in the number of objects in "**Count**". Click "Apply" to save the settings.



- Enable traffic detection: Enable AI traffic engine. Disable other AI engines for saving GPU load.
- Detection zone: Insert a zone for traffic behavior.
- Enable direction: Enable direction if traffic flows are needed such as turn left, turn right, and wrong way detections.
- Metadata: Select the object names for filtering the objects having a desired traffic behavior.
- Counter: A global counter for behavior event.
- Dwell: The time for parking violation.
- Count: The count of objects in a sense used by queuing detection.

□ǔ☶罂♀◊≮>		? - X
Channel 1 - Fil	ter > FOV(%) 100	
Camera name Fil	ter < FOV(%) 0	
ANPR Setting Traffic Management	Car Make Human	Detection
Enable traffic detection	Select Behavior Detection	
Confidence(%) > 15	Zone (AIAREA / AIFIRE / AIRAIL)	
Detection zone 3 + -	Parking spot (AISPC) Parking violation (AIAREA/AICAP)	
Enable direction	Traffic flow (AIFLOW/AICAP)	
Enable tripwire mode	Turn right (AIFLOW)	ackpack car and a set of the
Enable traffic light	Wrong way (AIFLOW) Turn left violation (AIFLOW)	
Metadata Car. motorbi	Turn right violation (AIFLOW) U-turn violation (AIFLOW) Run the red light straight (AIFLOW) Run the red light tel (AIFLOW) Run the red light right (AIFLOW) Queuing detection (AIFLOW)	
Parking	Set Output	
		Apply

Chapter 20.18 Human Mask Detection Setting

To set up the mask detection and no mask detection of an object entered the detection zone, follow the instruction below:

1. Click on "Enable Human detection". Please select the "channel" number for setting and specify "face, half_mask, mask" in "metadata". Add a detection zone to desired area. Select "Mask detection" and/or "No mask detection" behavior. Click "Apply" to save the settings.

□貸團團∞∞♀♀		? - ×
Channel  Camera name ANPR Setting Traffic Mana Conlidence(%) > 30 Detection zone 1  Enable direction Enable tripwire mode	Filter > FOV(%)     100       Filter < FOV(%)     0       gement     Car Make       Select Behavior Detection       Select Behavior Detection       * Omask detection (AMASK)       * No mask detection (AMASK)       * Social distancing (ADIS)       * Social distancing (ADIS)       * Social distancing (ADIS)       * No heimet detection (AISAFTY)       * No heimet detection (AISAFTY)       * Vest detection (AISAFTY)	
၀၀unt > ဂို္္ရာ Distance >	Set Output	Apply

2. Configure the HTTP post by clicking on event icon. Then, click on "Enable HTTP notification". Click on "Add" or select an event to "Edit" in "Notification events". Then, type in URL field /cmd=naveventmsg?cmxcgido=1&audiono=1&interval=0. Click "OK" to save the settings. This is to notify the Navigator for playing an audio.

ᇦ 原 🔤 🔤 🛛 🖗 < 🗲						? —	×
Channel 1	Filter > FOV(%) 100				×		
Camera name	Filter < FOV(%) 0		Protocol O HTTP	HTTPS			
	fic Management Car Make			POST			
ANPR Setting Train	Car Make		Event name Nav Http me	ta output Username	admin		
Enable Human detection	Select Behavior Detect	tion F	Host IP 192.168.3.6	B Password			
Confidence(%) > 30	Mask detection (AIN	ASK)	Host port 80				
Detection zone	+ – People density (AID)	IS)		entmsg?cmxcgido=18audiono=18interval	•		
Enable direction	HTTP notification	X	Content-Type text/html; ch	varset=utf-8 v			
Enable tripwire mode			Customized HTTP header	2			
Enable social distance	Enable HTTP notification		Test output	Li I			
Metadata car, bus, tr	LED panel display message	Add					
	Nav Http://weta.output			2			
Dwell > 10		Edit			· · · · · · · · · · · · · · · · · · ·		
		Move Up					
007 Display	~	Move Down					
Count >	~						
0 0							
Ω O Distance >		Cancel					
			Test				
					OK Cancel		
					Cancel	Apply	-

**Note:** "Navigator HTTP meta output" is an event name used as an example to show how to configure HTTP post. User may create a name for an event.

3. Enable the HTTP Post Notification to No Mask Detection. To enable, click on "No mask detection". Press "Set Output" and tick on "Navigator HTTP meta output". Click "OK" and "Apply" to save the settings.

□ ☆ ☶ 圖 ౫ ⑳ < >		? —
Channel 1 - Fi	ilter > FOV(%) 100	
Camera name Fi	liter < FOV(%) 0	
ANPR Setting Traffic Management	Car Make Human Detection	×
Enable Human detection	Select Behavior Detection	
Confidence(%) > 30	Mo mask detection (AIMASK)	
Detection zone 1 - + -	People density (AIDIS)     Behavior name     Social distancing (AIDIS)     HTTP notification	No maik detection (ADMAS)
Enable tripwire mode	Helmet detection (AISAFTY)     No helmet detection (AISAFTY)     Vest detection (AISAFTY)	a and a second se
Enable social distance		
Metadata car, bus, tru ~		
Dwell > 10		
Display	Counter harme	
Count >	Unit	
	Reset value Resetting time interval	
Ô Distance >	Time range From	
	Time range To Link to post event	
		OK Carcel
		Apply

#### Chapter 20.19 Social Distancing

To set up social distancing, a rectangle area can be mapped to our AI software for calculating social distance. To do so, follow the setup steps below:



Chapter 20.20 Setup Social Distancing

To set up social distancing, enable "Social distance" feature. Select Social distancing behavior. Click on button for setting social distancing. The social distancing feature works only in the rectangle area. The settings are described below:

- Unit: The rectangle area's unit, meter or feet
- Width of detection zone: The X axis, width, of the rectangle area
- Depth of detection zone: The Y axis, height, of the rectangle area
- Display distance: If two people are in the social distance, show the detection lines.

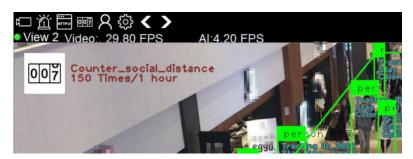


Once the social distance area gets set up, set the metadata to person. (Please select "Person" in the Metadata of the Traffic Management settings first. Then, select "Person" in Metadata of Human Detection settings.)



Note: There is only one detection zone that can support for social distancing feature.

The detection must be a rectangle area. Setup is social distancing counter to, for example, 5 people distance. This can detect the social distance of these 5 people that are too close. You can also enable the display counter if for verifying purpose. This can show how many times the area having violations of social distance.



Chapter 20.21 People Density of AI Software

To count the density of people in an area, follow the steps below:

- 1. Create a detection zone.
- Enable people density.
- 3. Set metadata to "people".
- 4. Add the people density count.

Once the people detected in the area is greater than density count, you can program HTTP post or event counter for outputs.

高麗 名 戀 <	$\rightarrow$		? -
nnel 1	>	Filter > FOV(%) 100	
era name		Filter < FOV(%) 0	
ANPR Setting	Traffic Managemen	t Car Make	Human Detection
🗹 Enable Human dete	ection	Select Behavior Detection	
Confidence(%) >	30	Mask detection (AIMASK)	
Detection zone	1 ~ + -	People density (AIDIS)	
Enable direction		Social distancing (AIDIS) Helmet detection (AISAFTY)	
Enable tripwire mod	le	No helmet detection (AISAFT Vest detection (AISAFTY)	
Enable social distar	nce 🛄		
Dwell >	10 ~		
007 Display	୍		
Count >	4	Set Output	
ဂိုဂို Distance >			
U⇔U			
			Apply

## Chapter 20.22 Setting the Front-end Camera AI Function in Navigator

■ Launch the Navigator main program, click on ■"Camera Settings" button, "Alarm Management" -> check on "Al Behavior Detection" ->click on "Options" -> Al Server/IP Cam, click on "Auto detect Al IP Camera", tick on "Get detections from Al server / camera directly.

DisplayRecord			Preview							
Activate this devic			- Internet	Cam 121 24		Al Engine	ALA	ann Aida Type	Aida Behaviors	<b>2</b> Al
Name C	am 121			All A			A		Prohibit zone	
Channel Location									Parking space co Zone with dwell	
Device Type IP	Camera 🔍	Detect				Display detection zones of Aida			🔄 Tripvire / Traffic	flow
Channel C.	am 001 🧠 📃	Setting		1 Dine		Display detected object bonding t	xxxes		<ul> <li>Left-turn detect</li> <li>Right-turn detect</li> </ul>	
	Auto import NVR	Impart	STREET, STREET			C Enable Aida type			Wrong way dete	
Itreaming Mode D	al Streaming Mode for the Cha	nal vi	A DESCRIPTION OF TAXABLE PARTY.		Alarm Management Cam#121	Filter out the objects without beh	Aida Server / IP Cam		× pht-turn violat	
	op Recording				Plant management can react	Minimum Object Pixels 30	Enable Aida dection service		turn violation in the red light	t violation
letwork 31	op Recording	FPS V			Condition#1 Condition#2 Condi	OSD Position Up ~	C Drable watch dog service	e	ft-turn violatio	in on red light ion on red light
NDNS	infoliation (Second - 1)		and the second se		Alarm Input Management		Send images to the Aida ser		er speed dets	ection
ITTP Port (ex. 80)	-	×	Find Device	Video	External ID Device		O Get detections from front G		wer speed det a give way det	
Onvit Port (Optional)	100		Assign the Recording Disk		NAV CGI Trigging		Capiture complete image		sik wearing de a Nask wearing	
TTPS Port (ex. 443)	443		Assignmentecarany bisa		ANPR Detection				Trass of arts	/ verection
ideo Port	554		<ul> <li>Auto switch the audio</li> </ul>	Alarm Management	Remote LPR Detection     GRCode detection		Server 2	100		
Jsemame	admin		ONVIE	ePOS/OSD	Aida Behavior Detection		Web Port Mile			
Password .		1	Device Type: IP Cam	ANPR Group Setting			Linked Channel 1	v 1		
amera/485 ID	1		Alarm Input (DI): 1		Options					
			Relay Output (DO): 1	Object Counting	Enable Alarm Input (DI)		2			
) Synchronize Time wit	h PC	Apply.		Facial Recognition	AND Logic Alarm Notification		Auto detect Aida IP Camera	ox	Cancel	
) Low bit rate client and	server connection 0.05	FPS		Advance Privacy Mask/OSD	Detection Dwell (Sec) 1 ~					
					Use the Not Logic	NCC Counter Aida Server / P	Can			OK

Chapter 20.23 AI Alarm and Behavior Detection Setting

With the Edge front-end camera authorization, check the Al Alarm Al Type and Al behaviors in Navigator.

AI Engine	AI Alarm	Aida Behaviors
Crophy detector zones of Ada Display detectoral point for the sea Display detectoral dipoint for the sea Display hash topol Transmit and the dipoint for the sea Display hash topol Transmit Object Paula 200 Particles Up to Up Up UP	A Traffe detections Traffe detections Parallel Traffe detections Parallel Traffe detections Parallel Traffe detections Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel Parallel	Produkt zone     Produkt zone     Produkt zone     Produkt zone     Produkt zone     Towney (Traffic from     Towney (Traffic from     Towney (Traffic from     Produkt zone)     Produkt zone     Produkt zo
	Object + behavior and to	yypt own

- Recognition: The channel recognizes the highest number of frames.
- Speed: The CPU accelerates, up to 4x maximum.
- Display detection zones of AI: Enable or disable the AI detection zone display.
  - Display detected object bonding boxes: Enable or disable the real-time object tracking box display.
- Display tracking ID: Enable or disable tracking ID display (the object tracking box must be enabled first).
- Enable AI type: Whether to display AI type detection (for example: vehicle detection).
- Filter out the objects without behavior: If there is no triggered behavior detection, the filter will not be displayed, reducing the screen complexity.
- Filter out the objects without speed: If there is no triggered speed detection, the filter will not be displayed, reducing the screen complexity.
- Object + behavior and trigger alarm: When AI detection and behavior detection are triggered simultaneously, the alarm will be triggered.

#### Chapter 20.24 Setting of Front-end Camera Counter on the Webpage

Enter the Edge camera webpage -> select "AI Recognition" -> check the object classification and behavior detection, -> select "Counter01"as the counter -> customize the calculation unit, and once the setting is complete, the value of the counter01 in the lower right corner will change.



## Chapter 20.25 Setting to Synchronize Front-end Camera Counter in the Navigate

When the counter is enabled on the webpage, NAV can synchronize the camera counter. Click on "Alarm Management" ->check "Al Behavior Detection" -> "Options" -> "NCC Counter" -> "Use Al Counter" ->select the corresponding counter "CNT 01".

Isplay/Record Activate this devic			Preview	Cam 121 24		AI Engine		A] Alarm	Aida Behaviors	
Name _	Cam 121			THE MERIL		1	lules to push to NCC Global Counter			×
Channel Location				and and the second second			Rule #1 Rule #2 Rule #3 Rule #4	Dide #5 Dide #6 Dide #7	Pule #3	aton
Device Type IF		Detect				Display detection	Use Al Counter			
Channel C	Cam 001	Setting		-		Display detected Display tracking I	Give AL Courter			
	Auto import NVR	Import				Coppay tracking t Chable Aida type Filter out the obs	NCC counter number			
treaming Mode C	Dual Streaming Mode for the Cha	nnel 🗸			Alarm Management Cam#121	Pilter out the oby	CNT 01 ~			
becord Mode s	Stop Recording	FPS O	The all the			Minimum Object Pixe	Aida Counter Index			
Jetwork				1 1	Condition#1 Condition#2 Cond	OSD Position	CNT 01 V			t be
PIDNS	White Street at a	a			Alarm Input Management					
ITTP Port (ex. 80)	-	×	Find Device	Video	External ID Device Motion Detection					
Invit Port (Optional)	100		Assign the Recording Disk		NAV CGI Triggering					
(TTPS Port (ex. 443)	443		Assign the Recording Disk		Video Loss Detection					
rideo Port	554		Auto switch the audio	Alarm Management	Remote LPR Detection     ORCode detection					
Jsemame	admin		ONVIF	ePOSIOSD	Aida Behavior Detection					
assword		۲	Device Type: IP Cam	ANPR Group Setting						
amera/485 ID	1	~	Alarm Input (DI): 1		Options					
			Relay Output (DO): 1	Object Counting						
Sunchronize Time wi	th PC	Apply		Facial Recognition	Enable Alarm Input (DI)				OK Can	cel.
Low bit rate client an	nd server connection 0.05	FPS V		Advance Privacy Mask/OSD	AND Logic Alarm Notification	L				
				Huvanter Inacj mashcob	Detection Dwell (Sec) 1 ~	NCC Counter Ak	a Server / IP Cam			OK
					Use the Not Logic	NCC counter A	a server / ar cam			OK

# Chapter 21 Face Recognition (Premium Authorization)

The face recognition welcome system is a face recognition system on the NAV software platform. It compares the entered face database, and the faces can be classified according to the white list (VIP list), black list and visitor list, and trigger related alarms output.

Our world-class facial recognition accuracy, flexibility, and ease-of-use make Navigator software right choice for retail, access control, time and attendance, surveillance, denial list/VIP greeting management, and other applications.



# Chapter 21.1 System Configuration

After a camera is configured, follow the steps below:

- Select Alarm Management
- Select facial recognition option from alarm input management
- Select alarm output, e.g., triggering DO of an IP camera.

Display/Record			Preview	
Activate this devic				
Name	Cam 116			
Channel Location			- Same	
Device Type	IP Camera 🗸 🗸	Detect		
Channel	Cam 001 ~	Setting		
	Auto import NVR	Import		
Streaming Mode	Dual Streaming Mode for the	Channel ~		
Record Mode	Stop Recording	1 FPS 🔍		
Network				2222222
IP/DNS	100.000.00			
HTTP Port (ex. 80)	80	X	Find Device	Video
Onvif Port (Optional)	80		Assign the Recording Di	sk
HTTPS Port (ex. 443)	443			
Video Port	554		Auto switch the audio	Alarm Management
Usemame	admin		ONVIF	ePOS/OSD
Password	•••••	0	Device Type: IP Cam	ANPR Group Setting
Camera/485 ID	1	~	Alarm Input (DI): 1	ANT K Group Sealing
			Relay Output (DO): 1	Object Counting
	with PC	Apply		Facial Recognition
Synchronize Time		0.05 FPS V		Advance:Privacy Mask/OSD
Synchronize Time Low bit rate client :	and server connection			

Condition#1	Condition#2	Conditio	n#3	Condition#4	Others		
Narm Input M	lanagement		Alarm	Output (DO)			
NAV CGI Ti Video Loss Speed mea ANPB Dete Facial Reco Remote DP QRCode de Aida Behav	Detection summert detection spinition H Detection stection	~	C P12 Sigr Alar Pos	r Sound d E-mail 2 Preset Recall val Digital Output m Ful Screen t-alam Recordion alam Recordion anced Alam DD val Alam Settion	~	00(01 02:03)04(05)05(07 08)03 Sunday Monday Tuesiday Vedresiday Thursday Fristay Saturday	10 11 12 13 14 19 16 17 18 19 20 21 22 2
Enable Alar	Options m Input (DI)		Pre-ala	Options Irm Dwell (Sec)	1 ~	Enable     Oclose	Apply All Schedule
AND Logic/ etection Dwe		I ~		Dutput Dwell (Sec) ext.Alarm Output Dwel	5 ~ Disat ~		



Chapter 21.2 Configure Detection Area & Facial Recognition

According to the installation site, you are able to define the recognition area. For defining the detection area, follow the steps below:

- Click Facial Recognition option.
- Click Options button.
- Use a mouse dragging on the video area for detecting area.

Condition#1	Condition#2	Condition	#3 Condition #4	Others	
Alarm Input M	anagement		Alarm Output (DO)		
NAV CGI Tri Video Loss Speed mea ANPR Dete Facial Reco Remote LPI QRCode de AIDA Settin	Detection surement detection ction gritton + Detection tection	^ ~	Play Sound     Perd E-mail     PTZ Presel Recal     Signal Digital Output     Aism Full Screen     Post-slam Recording     Advanced Alarm D0     Glabal Alarm Setting     <	^ >	000102003040500001011217314151617161520 Sunday Monday Vedenday Tunstay Friday Sunday Suday Vedenday
	Options		Options		OEnable     Apply All Schere
Enable Alar AND Logic/ Detection Dwe	Narm Notification	1 ~	Pre-alarm Dwell (Sec) Alarm Output Dwell (Sec) The NextAlarm Output Dwe (Min)	1 ~ 5 ~ II Disat ~	Close

Please set motion area on video.			×
	Minimum facial r	ecognition confidence rate (%)	70
	Same face repe	ated recognition times:	1
	Same face reco	gnition interval (>20ms):	500
	Speed		1x ~
	Minimum face pi	xels to reduce guests (width, height)	70
	Enable face	searching mode	
OSD Options	Face Resolution	in Pixel (H and W)	60
Show Guest	Default	Approved Groups OK	Cancel

Other settings are described below:

- Image detection area: Support full image detection
- Minimum facial recognition confidence rate (%): When the confidence rate is achieved, will indicate successful recognition and trigger an alarm.
- Same face repeated recognition times: To achieve recognition accuracy, the number of times the same face is recognized for a successful facial recognition.
- Same face recognition interval: Total number of recognition interval of the same face.
- Speed: 1x speed represents 1 CPU thread. The faster the speed, the higher the CPU usage.
- Minimum face pixels to reduce guests (width, height): When lower than minimum face resolution, the face will not be recognized.
- Enable face searching mode: Support facial recognition tracking.
- Face Resolution in Pixel (H and W): The pixel size of the photo after face recognition
- Show Guest : Display guest function

**Note**: Reduce guest is to adjust level required to increase the face recognition match to data base.

#### Chapter 21.3 Facial Recognition and Alarm Output

After face photos are added into facial recognition database, the face photos can be grouped into different lists. Based on the groups, you are able to trigger an alarm output for a grouped list. To set, select as per your requirement from Alarm Output -> Alarm Input Management -> Option -> Define motion area (optional) -> Approved Group -> Approved Group Name > OK

condition#1 Cont		Approved Access		×		
Jarm Input Managerr					ate (%)	70 🗘
NAV CGI Triggering		Approved	Group Name	^		
Video Loss Detection			Select All / Select Non	e		1
Speed measurement			Black List			
ANPR Detection	State Line Page 1		White List			[]
Facial Recognition Remote LPR Detecti			#003 STAR		):	500
QRCode detection		N N	#004 RD #005 FAE			
Aida Behavior Detect			#005 PAE			
			#007 Sales			
			#008 KR			1x ~
Optior			#009 JP		width, height)	70 -
			#010 TW	~	induly neighty	70 🔹
Enable Alarm Input		Trigger events f	or all faces OK	Cancel		
AND Logic Alarm No	OSD Options		-		110	60
AND LUGICAIAITHIN	Show Guest		Default	Approved Groups	ок	Cancel
tection Dwell (Sec)			Derout	Approved droups	- Ch	Concer
Use Not Logic	7					

#### Chapter 21.4 Set Alarm Output Settings for Applications

The alarm outputs for a detected face can be triggered for many applications.

- VIP greeting: Enable Alarm Full Screen with OSD display for the VIP guest.
- Access control: Enable Signal Digital Output can trigger DO of an IP camera for opening a door.

Alarm Input M	anagement		Alarm Output (DO)		
Motion Deta NAV CGI T Video Loss Speed mea ANPR Dete	iggering Detection surement detection ection		Play Sound Send E-mail PTZ Preset Recall Signal Digital Output Alarm Full Screen Post-alarm Record	^	
QRCode de AIDA Settin	tection	× >	Pre-alarm Recording     Advanced Alarm D0     Global Alarm Setting     <	*	
	Options		Options		
m Management Cam#039 Condition#1 Condition#2 Conditio		Others			
Condition#1 Condition#2 Condition Alarm Input Management Motion Detection NdV CBI Triggering Video Loss Detection Speed measurement detection ANPR Detection P Facial Recognition	Alarm Output (DO)	Others Notification Acti Relay Camera :	on Settings #037 #037 8G1122-60FPS 測1	× 2131415161718	919 20 21 22 23
Condition#1     Condition#2     Condition       Alarm Input Management	Alarm Output (DO)	Notification Acti	#037 #037 SG1122-80FPS測1	2 13 14 15 16 17 18	3 19 20 21 22 23
Condition#1     Condition#2     Condition       Alarm Input Management	Alarm Output (DO)	Notification Acti Relay Camera : Relay Output :	#037 #037 SG1122-60FPS測1、 1	2131415161718	3 19 20 21 22 23

## Chapter 21.5 Schedule of Facial Recognition Triggering a Digital Output

For access control application, IP camera relay output can connect to an access control for opening a gate or a door. You can also apply the schedule for weekdays for automation. To set, select as per your requirement from Alarm Output -> Alarm Input Management -> Enable Alarm Notification Schedule Day/Time -> OK

Condition#1	Condition#2	Conditio	n#3 Condition#4	Others		
Alarm Input Ma	anagement		Alarm Output (DO)			
Motion Dete NAV CGI Tri Video Loss I Speed meas ANPR Deter Facial Reco QRCode det AIDA Setting	ggering Detection surement detection stion gnition section	~	Play Sound     Send E-mail     PT2 Preset Recall     Signal Digital Output     Alarm Full Screen     Post-alarm Record     Pre-alarm Record     Creature Record     Creature Record     Creature Record     Colobel Alarm DO     Gibbel Alarm Settinn     <	^ ~ >	00 (11 02 03 04 05 06 07 08 0 Monday Tuesday Vednesday Thorday Finday Saturday	09 10 11 12 13 14 15 16 17 18 19 20 21
	Options		Options	3	Enable	Apply All Schedu
Enable Alarr AND Logic A Detection Dwe Use Not Log	Jarm Notification	1 ~	Pre-alarm Dwell (Sec) Alarm Output Dwell (S The NextAlarm Output (Min)	ec) 5 ~	Close	

#### Chapter 21.6 Add Faces Photo into Database

In camera property dialogue box, click Face Snapshot button. The snapshot of the Facial Recognition dialogue box shows up for adding a face photo and entering personal information.

⊳ Camera Settings#					
Display/Record				Preview	
Activate this devic					
Name	#001 S	W_FAST			
Channel Location					
Device Type	IP Camera	~ 1	Detect		
Channel	Cam 001	~ 5	Setting		
	Auto import DVR		Import		
Streaming Mode	Dual Streaming Mode for	the Channe	H V		
Record Mode	Record dual stream	✓ 1 FPS	~		
Vetwork					
PIDNS	192.168.110.211				
HTTP Port (ex. 80)	80		×	Find Device	Video
Onvif Port (Optional)	80			Assign Recording Disk	
HTTPS Port (ex. 443	443			reary recording or an	
/ideo Port	554			Auto switch the audio	Alarm Management
Jsemame	admin			ONVIF	ePOSIOSD
Password				Device Type: IP Cam	
Camera/485 ID	1		~	Alarm Input (DI): 0	ANPR Group Setting
				Relay Output (DO): 0	Object Counting
Synchronize Time	with PC	A	pply		Facial Recognition
Low bit rate client	server connection	0.05 FP	s ~		
Lens Code	~				

## Chapter 21.7 Add Photos Database for a Face

For adding face photos, follow the steps below:

- Enter the name.
- Click on "..." button for adding Group button.
- Select the group name.
- Click on the name list for deleting or modifying the person's information.

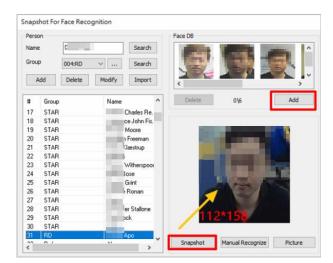
ice D		Per l						
D	elete		. (	0\5				Add
son					History Events	1		
ю	K	Search	View Editing	×	all channe	Is of face detect	on	
p	029:VIP	Search	Group		Start time	2024/06/05	08:00:00	\$
	(deprine)		VIP	Modify				
dd	Delete Modify	Import Export			End time	2024/06/05	09:41:44	÷
_			# Group Name		Contains			Search
	Group	Name	24 辰邦					Search
	RD	1000	25 連供 26 順基	I		70		70
	RD	1000	26 唱臺 27 高永嘉		Face	/0	Face searching	/0
	RD RD	100	27 NOTE					
	RD	and the second	29 VIP		Date / Time	N	ime	Confiden
	RD		30		Date / Time			Contraction
	VIP	K F	31					
-	RD	Kura Managa	32					
	RD	how many inter	33					
	RD	F						
	RD	P						
	RD	F		Close				
	RD	F						
	RD	For any						
	RD	F						
	RD	P						

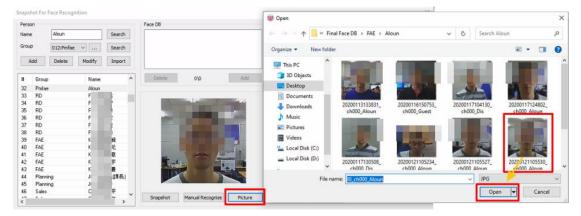
Pers	on				Face DB			History Ever	nts				
Name	e	Graceyang		Search				all channe	els of face dete	ection			
Grou	P	003:FAE	~	Search	_	Navigator 64 Elite	_	Start time	2020/08/02	2 🔍	20:04:41		٥
1	4dd	Delete	Modify	Import				End time	2020/08/02	:	21:04:41		*
#	Group		Name	^		The face is recognize "Stevehu" Score: 96	d as	Contains	STEVE			Search	
16	FAE		Ginn									-	_
17	FAE		Smith			OK		Face	35	Fa	ce searching	70	
18	FAE		G	ing									
19	FAE		Je		1	State of the local division in the local div		Date / Tim		Name		Confide	
20	FAE		k			and the second second							* ``
21	FAE		C	cheng		the second second			2 21:03:01	5 U		95	
22	FAE		C			the second second			2 21:03:06	5 N		96	
23	FAE		Lun			and the second se		Contraction of Contra	2 21:03:18	S N		96 96	-
24	FAE		S			and the second		2020/08/0	the local disk has been deeper at the second	5 N		96	-
25	FAE		R	)		All and a state		· · · · · ·	2 21:03:34	5 10		96	
26	FAE		A							5		90	- 11
27	FAE		LI	Y		140*105			2 21:03:55 2 21:03:56	5		94	-
28	White		cl			140(195)			2 21:03:30	Sheri te Ku		24	~
29	White		G					<				,	
30	White		h	~		the local second	0.1						
ŝ	1.0.2				Snap	shot Manual Recognize	Picture	Advance	Face sear	rching		a	lose

**Note**: Manual Recognize is to know the level of recognition.

#### Chapter 21.8 Adding Photos into Database

For adding a photo into the facial recognition database, you can click on Snapshot or click on Image File button. After a photo is loaded, you can click on Add button for adding into the facial recognition data base.





Note: The face of the photo needs to meet minimum pixel requirement.

## Chapter 21.9 Historical Recognized Data

The face photo recognized will be saved in the History Event list. Click on the name, the recognized photo can be displayed in the temporary area. Click Add button to add the photo to the database. If a face is not recognized, the face is added into guest list. You can add the photo into a database for elevating the recognition rate.

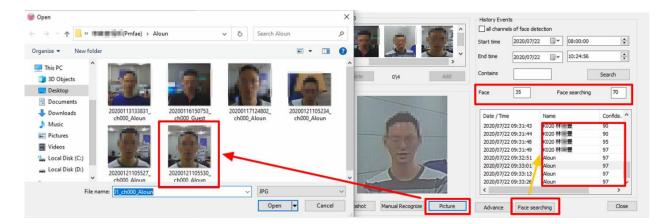
Pers	on				Face DB			History Ever	nts				
Nam	e Stevehu		Search		EREB			all chann	els of face deter	tion			
Grou	003:FAE	×	Search					Start time	2020/08/02		20:04:41		
	Add Delete	Modify	Import				· · ·	End time	2020/08/02		21:04:41		-
#	Group	Name		^	Delete	0\8	Add	Contains	STEVE			Search	
16	FAE	6										-	-
17	FAE	ehu ehu		-				Face	35	Fa	ce searching	70	
18	FAE	1 198	ng										
19	FAE	. MU							3			Confide	
20	FAE	1 lin						Date / Tim		Name			-
21	FAE	l an	cheng					and the second sec		s ı		95	
22	FAE	1								s 1		96	
23	FAE	1								Stationeral		96	
24	FAE	: Eo	0							S u		96	
25	FAE	l hin				A -	And I wanted	Contraction of the second s		S' u		96	
26	FAE	/				1 1 1 1		and the second sec		s u		96	-
27	FAE	I AT	Y			Inter			a salestes	S U		94	
28	White List	n			1	48 195		2020/08/0	2 21:03:56	s u		94	~
29	White List	i .u						<				>	
20		1											
30	White List			~	Snapshot	Manual Recogniz							ose

Note: It is highly recommended to have photos in different angles of a person.

#### Chapter 21.10 Historical Guest Face Tracking Search Mode

You can customize the search by date and time, search for guest recognition in the History Event list, and edit the guest as black list or white lists, and etc.

The faces can also be searched through picture, will compare with the face database to recognize the similar picture, and edit the verified identity of strangers in the list.



**Note:** The face pixel size and confidence degree of the search conditions will increase or decrease the search time.

Chapter 21.11 Search the Name for the Video Click on playback button and select Facial Recognition option. You are able to search the entire name list of recognition.

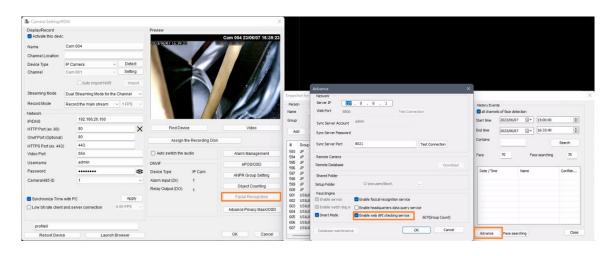
				×
Cam 001	#002 AI Z7 IPCAM	#003 SG1122LPR	Cam 004	Main Grouping 🔗 🗸
				2023/11/15         Calendar           November         -         2023 [-]           Sua Mon Tue Wen Thu Pri Sat         -         -           1         2         3         4           5         6         7         8         10         11           12         13         14         15         16         17         18           19         20         21         22         23         24         25         26         27         29         30         4
Cam 005	Cam 006	Cam 007	Cam 008	
	Search Person Name Temporabute	Select al v		Start Time:         00 : 00         (a)           End Time:         09 : 31         (a)           Select mode:         Face         (a)           Snert Event         Search         (a)
Cam 009	Unit	*C Cam 011	Cam 012	
		20.00 40.00		Time ChannelEvent
Cem (03	Preview Seconds Post-event Rankew Seconds Pay angle events	1         0         sconds         5         6         Dolpston SICASpl           1         0         Moutes         5         0         sconds           0         K         Cancel         1         0         sconds	401672786C21N	
08:36:00			09:30:59	
		) T T Speed R V		

Chapter 21.12 Playback Click on the names after recognition for video playback.



## Chapter 21.13 Advance Facial Recognition Setting

Enable the face API command, go to "Advance" -> check the "Enable web API checking service", and then you can transmit the command to the facial recognition host through the remote transmission.



## Chapter 21.14 Installations

For better recognition rate, follow the guidance for installation cameras.

- The environment of facial recognition cameras needs be at least 450Lux.
- The shutter speed of the camera should be 1/60 sec or 1/50 sec.
- Leveled camera installation facing a face at distance 3-5 meters.
- The pixel size of the photo should be 100 x 100 or higher.
- Do not use 4K cameras to slow down the recognition speed.

The following pictures are not good for facial recognition.



#### Facial recognition requirement

- Face photo pixel requirement: 70 x 70 pixel or higher
- Detectable face angle: Up and down +/-15 degree, left and right +/-15 degree
- Environment minimum Lux:  $450Lux \sim 1,000Lux$
- Face detection condition: Eyes, eyebrows, and nose can not be blocked.
- Recognition time: 1 second at 2000 photo db.
- Recognition distance: 0.5M~6M
- Shutter speed of the camera: 1/50 or 1/60 sec or higher
- Facial makeup might affect recognition rate.

- Avoid strong back light environment
- Increase camera brightness if the skin of a face is too dark or the camera faces strong back light.
- Do not use 2.2 mm and 2.8 mm lens due to distorted faces.

**Note:** Do not use camera IR mode. Black and white video from camera does not work with facial recognition system.

#### Chapter 21.15 Confidence Rate and Pixel of a Photo

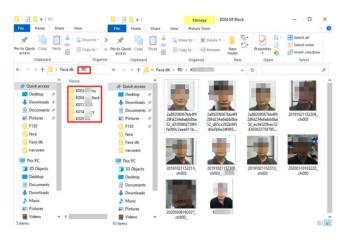
In general, the confidence rate of facial recognition might be affected by the pixel size of a photo. The following table describes examples of confidence rate and pixel size of a photo. However, the confidence rate could be also affected by poor lighting and bad video quality.

Perso	m				Face DB			History Event	5		
Name		Elf Black		Search	-			all channel			
Group	p	003:FAE	~		000	Navinator 64 Bit	6	Start time	2020/05/07 ~	08:00:00	٥)
A	dd	Delete	Modify	Import		All All and a second second		End time	2020/05/07 ~	14:28:48	•
	Group	,	Name	^	0	The face is recogniz "Elf Black" 0.9053	ed as	Contains	ELF	Search	
21	Teste			cob Rad.	-			Date / Time	Name	Confi	. ^
22 23	Teste	(c)	Charlin	Theron		ОК		2020/05/07	10:0 ElfBlack	77	10
23	Teste		C	ne Moss					10:0 Elf Black	89	
25	Teste		Britten	ieth		Management of the local division of the		2020/05/07	10:0 Elf Black	94	
26	Teste		An	bis Schw.		A DESCRIPTION OF THE OWNER.		2020/05/07	10:0 Elf Black	90	
27	Teste			Edward S.		And Personal Property lies	11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	2020/05/07	10:0 Elf Black	93	
28	Teste	24	Ar					2020/05/07	10:0 ElfBlack	93	
29	Teste	r		ohnson		The strength of the			10:0 Elf Black	85	
30	Teste	r	Ab			A DESCRIPTION OF THE OWNER OWNER OF THE OWNER OWNER OF THE OWNER			10:0 Elf Black	96	
31	FAE		Di						10:0 Elf Black	97	
32	FAE		Came					1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	10:0 Elf Black	87	
33	FAE		Kell			125*166		2020/05/07	10:0 ElfBlack	77	۷
34	FAE		El			ALC: NOT THE OWNER OF THE OWNER OWNER OF THE OWNER OWNER OF THE OWNER O		<		>	
35	FAE		Belle			and a product of the second se	-				
c					Snapsho	it Manual Recognize	Image File	Advance	Face searching	Exit	

Photo resolution	128 x 114	320 x 310	430 x 430
Confidence	67%	86%	95%

#### Chapter 21.16 Two Phases of Quick Face Photos Setup

For quick face database creation purpose, use Import feature for importing a batch of photos into face database after finishing cameras and NAV setup.



The face database has at least one face photo for a person. Utilizing the facial recognition feature, the camera keeps capture face photos for NAV to recognize. In History Event dialogue box, click Add button for adding the recognized photos for a person. For increasing the recognition rate, at least 5 photos of different angle of a person are highly recommended.



#### Chapter 21.17 Camera Setting Requirements:

Camera settings for facial recognition are described as below:

- 1. Shutter speed: To increase recognition rate, set the shutter speed of camera to 1/60 or 1/50 for avoiding video motion blur.
- 2. AGC: Increase AGC setting for increasing the luminance of the camera.
- 3. 3D noise reduction: Disable 3D noise reduction to avoid video motion blur.
- 4. Exposure value: Adjust exposure value for increasing the luminance of the camera.
- 5. Noise: If the noise of the camera is too high, try lower the sharpness for reducing noise.

Items	Specification
Recognition speed	10-11 recognitions per second for a camera
Number of channels	4 cameras up to 40 recognitions / sec
Number of faces	Up to 4 faces per picture
Minimum face photo pixel requirement	80x80 pixel: 70% confidence rate, 300x300: 80% confidence rate, 450x450 pixel: 90% confidence rate
Detection distance	0.5 ~ 6m, face photo with 80x80 ~ 450x450 pixel
Video resolution supported	720P 30FPS · 1080P 30/60FPS
Maximum people detection allowed	10,000 people, 100 000 photos database
Face training database	10 pictures for a person updatable from the guest list
Recognition rate	Up to 99.82% recognition rate (based on LFW International Facial Recognition Database, database 5000 people, 14000 pictures)
Recognition time	1 second at 2000 photo database
Detectable face angle	Up and down +/-15 degree, left and right +/-15 degree
Environment minimum Lux	450Lux ~ 1000Lux
Face photo database	Batch photos import
Face detected for alarm triggering	Full screen, OSD text, digital output triggering, buzzer, PTZ preset
Face lists	VIP list, unauthorized list, guest list
Guest list	Guest list allows added into face database (training)
Schedule	4 scheduling tables for alarm outputs and DO triggering
Visitor List Recognition Training	The visitor list can be added to the database to increase the recognition rate
Camera supported	ONVIF IP camera and RTSP stream
Video recording	4-ch Navigator 5.0 Corporate license
CPU	I7-10700 or higher (8C/16T)
RAM	32GB DDR4-2400
Graphics	RTX 2060Superor higher
OS	Windows 10 Professional Edition (Version 21H2) and higher
SSD	500GB
HDDs	Up to 3 HDDs for recording
Applications	Access control, time and attendance, surveillance, denial list/VIP greeting management

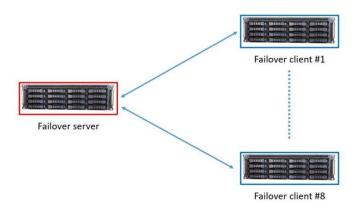
## Chapter 21.18 Face Recognition Datasheet

# **Chapter 22 Failover**

The Navigator recording server can be configured for failover mode. If one or more Navigator recording servers lose the network connection for cameras or need to be switched off for maintenance purpose, the Navigator recording server (failover server) with failover enabled can record videos for these cameras of Navigator recording servers.

## Chapter 22.1 Channel Hot Spare Mode

One failover server can connect to 8 Navigator recording servers for failing over the task.



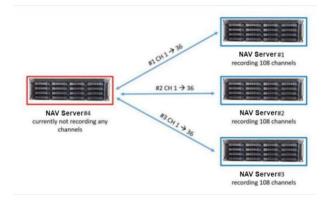
One Navigator failover server can rescue 36 channels of a Navigator recording server. This Navigator recording server cannot accept second failover server, so you have to decide which cameras are very critical for failover feature.



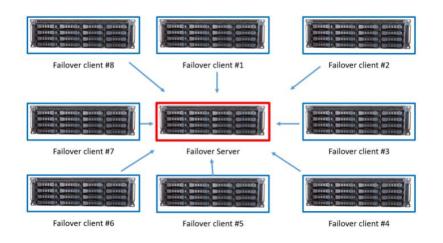
Failover server number of channels cannot exceed its specification where NAV 24 Bay host at failover mode can rescue 108 cameras.

#### Example:

One 108ch at failover mode can only rescue 3 units NAV video host camera recorders, each NAV video host user chooses 36 channels to rescue.



Or one 108CH licensed service host can rescue 8 clients average 13 channels per server. (According to the number of server host licenses 13 x 8=104)



## Chapter 22.2 Host Hot Spare Mode

One fault-tolerant migration service host can back up for up to 60 Navigator recording service hosts, and perform fault-tolerant migration video recording services.

When a client disconnects, the channel settings are backed up to the fault-tolerant host. However, only one remote NAV service can be backed up at a time.

stem Settings Schedule	Recording Time	Network Failow	ver		
) Disable failover					
Failover server mode	Station Name	Failover Client 00			
Station Hot Spare Mod $  imes $	HOST IPv4:			X	
Failover Remote Clier	HTTP Port	0			
Client 01	Username				
Client 03	Password	-			
Q Client 05	0			-	
Client 06				_	
Client 08				_	
Client 10	Audio al	arm loop			
Client 11	Connect		Inquiry		
Failover client mode		Station Hot	Spare Mode		

Chapter 22.3 Enable Failover Monitoring Service

To enable failover on the failure over machine, please click System Settings and go to the Failover tab. Select Failover server mode if you want the Navigator recorder to operate as a failover server; select Failover client mode if you want your workstation to operate as a client.

For failover server, choose one of the clients (Navigator recorders) from the list, and specify the host IP address, port number, username, and password to enable the monitoring service. The default port for Navigator is 8021. To enable failure alarm, please select Auto Alarm Loop.

## Chapter 22.4 Failover Client Setting

For the Navigator recording server that will be rescued, choose Failover Client mode. Press OKbutton and re-launch Navigator application.

system octangs or ouping	Concourse recording	ng Time Network Failover	
O Disable failover			
O Failover server mode	Station Name		Failover camera
Station Hot Spare Mod $ \smallsetminus $	HOST IPv4:	X	
Failover Remote Client	HTTP Port	8080	
Client 01	Username		
Client 03	Password		
Client 05			
Client 07			
Client 08	Audio ala	irm loon	
	Connect		
	Connect	Inquiry	
<ul> <li>Failover client mode</li> </ul>		Station Hot Spare Mode 🗸 🗸	
		Channel Hot Spare Mode Station Hot Spare Mode	
		Station Hot Spare Mode	

#### Chapter 22.4.1 Channel Hot Spare Mode

For the failover client (backup host), please check "Failover enabled" in the properties of the camera to be used as the failover client, as shown in the figure below:

isplay/Record		-			
Activate this devi	Failover enabled 2/	36			
lame	#001Z				
Channel Location					
Device Type	IP Camera	~	Detect		
hannel	Cam 001		Setting		
	Auto import f	IVR	Import		
treaming Mode	Dual Streaming Mode	for the Ch	nannel ~		
Record Mode	Record dual streams	~	1 FPS		
etwork	DVT				
P/DNS		-	12.10		
ITTP Port (ex. 80)	999		×	Find Device	Video
Invif Port (Optional)	999			Assign the Recording Disk	
ITTPS Port (ex. 443	443				
ideo Port	554			witch the audio	Alarm Management
Isername	admin				ePOS/OSD
assword			9	e: IP Cam	
amera/485 ID	1			ut (DI): 1	ANPR Group Setting
				put (DO): 1	Object Counting
Synchronize Time	with PC		Apply		Facial Recognition
Low bit rate client	and server connection	0.0	5 FPS 🔷		Advance: Privacy Mask/OS

# Chapter 22.5 Fault -Tolerant Migration Service Host Setting

For the failover server, please fill in failover client 01, the IP info of the server, which will be rescued, press ok to validate and you will be asked to re-launch the Navigator application

Do the same for the cameras you want to rescue.

ystem Settings Schedule	Recording Time	Network Fallover	
Disable failover			
Failover server mode	Station Name	AI	Failover camera
Channel Hot Spare Mo $ \sim $	HOST IPv4:	192.168.3.61	x #01: #F(1-1
📜 Failover Remote Client	HTTP Port:	8021	#02: #F(1-2 #03: #F(1-3
Client 01	Username	admin	
Client 03	Password	••••	
Client 05			-
Client 06			
🛃 Client 08			
	Audio al	arm loop	
	Connect	Inquiry	
Failover client mode		Station Hot Spare Mode	~

**Note:** The failover server cannot be used for normal recording, if you had a previous setting on this server, they will be inactive.

In the group page you will see 8 new groups.

						? -	<b>u</b> ×
#F(1-1)	nt(1-5)	#f(1-3)	#F(1-6)	wf(r-5).	#F(1-6)	2023/0 10.30 T. 78% CPU: REC MIC O MUTE admin R. DAY	11% FF
म(१-७)	₩f(1-8)	#f(1-9)		#F(t-51)	#F(1-12)	210 No	
#((1-13)	MP(1-14)	मां (1-15)	#((1-10)				pplications Groupings Windows Playback
#F(1-19)	#F(1-2Q	₩(1-21)	WF(1-22)	af	Failover Group 3 Failover Group 4	•1 🔘 🗗	0 0 I
#6(1-25)	#F(1-20)	#fq-27)	MF(1-28)	at Group	Failover Group 6 Failover Group 7 Failover Group 8	SEQ	
		#F(1-33)	иf(1:34)	#F(t-35)	#F(1-38)		

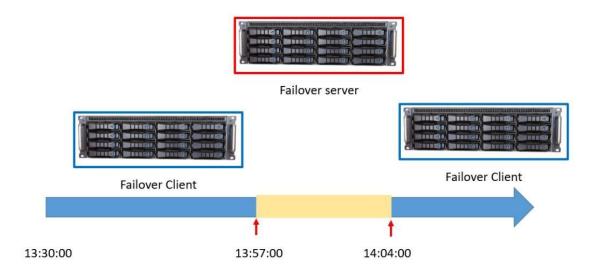
After re-launching Navigator, go back to failover setting you will see on the right all cameras selected for failover server.

tem Settings Schedule	Recording Time	Network Pallover		
Disable failover				
Failover server mode	Station Name	AI		Failover camera
Channel Hot Spare Mo 🗸	HOST IPv4:	192.168.3.61	X	
📑 Failover Remote Client	HTTP Port:	8021		#02: #F(1-2)#002 Z #03: #F(1-3)#003 C
Client 01	Username	admin		
Client 03	Password			
🛃 Client 05	$\bigcirc$			
🛃 Client 07				
🛃 Client 08	Audio a	larm loop		
	Connect		Inquiry	
Failover client mode		Station Hot Spare Mo	de 🗸	

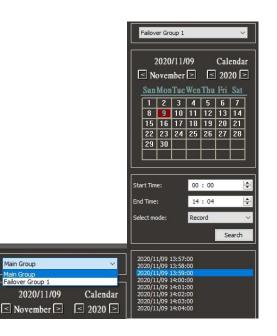
#### Press inquiry

Navigator 64 B	its	-
	Get FAILOVER Client Info OK! 2	
	ОК	

To test this function, for example, the Navigator recorders (failover clients) suddenly power down at 13:57:00, failover server will start recording selected channel until failover clients are recovered.



Go to failover server playback interface, you will see a new group



You can now playback data on the server.



**Note:** That data on failover server want not be copied to the original failover client, so you need to know at what time the issue happens to check the correct server to find the data.

If you need the failover client has the missing data, you need to use the archive manager function, but it will be very slow and it will backup one channel at a time and also bandwidth consuming.

# Chapter 23 Utility Tool

When users need to make extensive batch modifications to application functions without opening the software, they can make adjustments using a utility tool, saving a lot of tedious time.

## Chapter 23.1 SyncSetInfoTool

This function is about NAV camera property page adjustment.

- 1. Directory: C:\navusers\APP Schedule
- 2. Execute SyncSetInfoTool.exe

APP Schedule			
	ै 💭 → This PC → Local Dis	k (C:) > navusers > APP Sc	hedule Search APP Schedule
⊙ New - 🛛 👗		tting Sync Face	- a x
n Home	Name 18 2015-2019 x64 18 2015-2019 x86	Enable Connect Mode:	Dual Streaming Mode
	Close server 5.12 SetNavAndNccOpenAPPEX SyncSetInfoTool	Record Mode:	Record dual stream v 1 FPS v
Pictures	•	Enable HTTP Port (ex. 80) HTTPS Port	Onvil Port
ANPR		Enable Protocol:	RTP/TCP 554 port (default)
👮 This PC		Select Channel	Channel Number Select All / No Select
		All open All o	Sose Arrange normally Apply

Sync function:

- Connect Mode: Supports main/sub stream output of images with two different bit rates.
- Record Mode: Supports main/sub stream recording or dual stream recording, and supports low-capacity recording mode.
- Time Adjust: Synchronize with the local PC time.
- Low Bitrate CMX HTTP Server Mode: When checked, saves bandwidth in the HTTP Port external web connection channel Live screen.
- HTTP, HTTPS, Onvif, Video Port: The device's connection port.
- Protocol: Streaming protocols, RTP/UDP, RTP/TCP, or RTP/TCP/HTTP.
- Select Channel: You can independently select channels for the above functions or choose to apply to all channels.
- All open: All channels are enabled.
- All close: All channels are disabled.
- Arrange normally: Restore the default channel sequence.
- Apply: Applies the settings.

#### Chapter 23.2 SetNavAndNccOpenAPPEX

This function is about the automatic login and software startup waiting time of NAV, NCC & AlEngine.

tting	
NAV Set OPEN	
NAV Set OPEN	
Trigger Time	
20 seconds 💌	
NCC Set OPEN	
NCC Set OPEN	
Trigger Time	
20 seconds 💌	
AIEngine Set OPEN	
AIEngine Set OPEN	
Trigger Time	
20 seconds 💌	
Apply	
ClearRegistrationInfo	
ClearFilesAndAutoOpenApp	s
	Exit
_	Exit

- NAV Set OPEN: After NAV is started, the waiting time before software login.
- NCC Set OPEN: After NCC is started, the waiting time before software login.
- AlEngine Set OPEN: After AlEngine is started, the waiting time before software login.
- ClearRegistrationInfo: Clear NAV registration license. (Please use with caution!)
- ClearFilesAndAutoOpenApps: Clear all settings and databases for NAV, NCC, and Client. (Please use with caution!)

Startup sequence time specification:

- 1. NAV > NCC
- 2. AlEngine = NAV or AlEngine < NAV

# Chapter 24 Troubleshooting and Support

## Chapter 24.1 Choosing between SMR and CMR in Hard Drives

Many people ask what is the right hard drive for the intended use. Because different recording methods have different performance, SMR is used for cold data storage and CMR is used for repeated reading and writing data. Both technologies have their own characteristics for reasonable and right application.

In our guide, it is usually recommended to use CMR hard disks. When the recording host often reads and writes or important data transmission is important, CMR hard disks are a good choice. It is recommended to choose the Pro series of the same model, which can read and write for a long time. To maintain life and warranty, the following are WD and Seagate series hard drives.

For more detailed hard drive model brands, please consult the original manufacturer's technology.





Brand	Model #	Format	Application	RAID 5
WD	Purple Surveillance Al	CMR	DVR&NVR monitoring power saving or small video	8 Bay
			recording	
WD	Red Pro NAS	CMR	NAS RAID small and midsize video recording	16 Bay
WD	Ultrastar DC HC530	CMR	NAS or medium-scale video recording database 16	
WD	Ultrastar DC HC550	CMR	Database and recording a connected large number of channels	24 Bay
WD	Ultrastar DC HC570	CMR	The database is frequently written and read, and JBOD has more channel recordings.	24 Bay
WD	Gold Enterprise	CMR	The database is frequently written and read, and JBOD has more channel recordings.	24 Bay

Brand	Model #	Format	Application	RAID 5
Seagate	SkyHawk Al	CMR	DVR&NVR monitoring power saving or small video recording	8 Bay
Seagate	IronWolf Pro NAS	CMR	NAS RAID small and midsize video recording	16 Bay
Seagate	Enteprise Exos 7E8	CMR	Database and recording a connected large number of channels	24 Bay
Seagate	Enteprise Exos X16	CMR	The database is frequently written and read, and JBOD has more channel recordings.	24 Bay

**Note:** Technically speaking, SMR also uses a vertical magnetization method, so in order to segregate, the original PMR is renamed CMR.

**Note:** Depending on the grade or type of the hard disk, the hard disk will decline for a certain period of time when reading and writing, and then return to the normal writing speed. It is generally recommended to use the enterprise-level hard disk of the database to process a large amount of images or retrieving data. In addition, please ensure to keep more than 10% of the reserved space, which aids in buffering hard disk writing.

## Chapter 24.2 Computer Room Guidelines

Generally, the computer room should maintain a temperature of  $24 \pm 4^{\circ}$ C and a humidity level of  $50 \pm 20^{\circ}$ . Too high temperature and humidity can lead to component corrosion, shortened lifespan and equipment failure. Clean regularly to reduce dust accumulation and reduce the risk of overheating. Please ensure that these assets are protected from any moisture-related environment.



## Chapter 24.3 5.0 System Requirement

The requirements for NAV recorder host and AI recognition server are as follows.

* The number of channels depends on the CPU cache speed. (Simulated scenario calculation: Multiple split screen 480P 15FPS)

Video decoding for the recording host: H.264/265 CPU type.

5.0 NAV Recorder System						
Minimum Sys	Minimum System Requirements		Recommended System Requirements			
Operating System	Win10 Pro 22h2(64 Bit)	Win10 Pro 22h2(64 Bit)	Win11 Pro 22h2(64 Bit)			
Processor Frequency	2.4Ghz or higher	2.6Ghz or higher	3.0Ghz or higher			
Core Processor	6C/8T or higher	8C/16T or higher	8C/16T or higher			
Processor	Intel® Core 10 th i5 or higher	Intel® Core 10 th i7 or higher	Intel® Core 12 th i7 or higher			
Recording Channel	36-ch	72-ch	108-ch			
Dynamic Recording Channel	16-ch	36-ch	72-ch			
Number of AI camera supported	16-ch	36-ch	72-ch			
NumberofAlRecognitionChannelsupported	4-ch	8-ch	16-ch			

Hard disk Quantity	8 BAY	16 BAY	24 BAY
Built in Graphics Card	Intel® HD Graphics 630	Intel® HD Graphics 730	Intel® UHD Graphics 730
Dedicated Graphics Card	Nvidia GT1030	Nvidia GT1050 or higher	Nvidia GT1050 or higher
AI Video Memory	16GB or higher	32GB or higher	64GB or higher
Video Memory	16GB or higher	16GB or higher	32GB or higher
Dynamic Video Memory	16GB or higher	32GB or higher	64GB or higher
System Disk Space	System SSD 256GB or higher	System SSD 256GB or higher	System SSD 500GB or higher
Database Event Storage	1TB or higher	1TB or higher	1TB or higher
Storage Disk Level	NAS PRO or higher	NAS PRO/Data Enterprise or higher	Data Enterprise or higher
RAID Level	RAID 5	RAID 5, 50	RAID 5, 50
RAID Model	9361-8I 1G or higher	9361-8I 1G or higher	9362-8I 2G or higher
RAID CARD	6 Gb/s or higher	12 Gb/s	12 Gb/s
Internet Connection	1000Mbps RJ45 or higher	1000Mbps RJ45 or higher	1000/10000Mbps RJ45 or higher
Monitor Resolution	1280 X 1024 Minimum Resolution	1920 X 1080 Recommended Resolution	1920 X 1080 or higher

	5.0 AI Recognition System						
Minimum Sy	vstem Requirements	Basic System Requirements	Recommended System Requirements				
Operating System	Win10 Pro 22h2(64 Bit)	Win10 Pro 22h2(64 Bit)	Win11 Pro 22h2(64 Bit)				
Processor Frequency	2.4Ghz or higher	2.6Ghz or higher	3.0Ghz or higher				
Core Processor	6C/8T or higher	8C/16T or higher	8C/16T or higher				
Processor	Intel® Core 10 th i7 or higher	Intel® Core 10 th i9 or higher	Intel® Core 12 th i7 or higher				
Recording Channel	4-ch	9-ch	16-ch				
Number of Al Recognition Channel supported	4-ch	8-ch	16-ch				
Database Event Storage	1TB or higher	1TB or higher	1TB or higher				
Built in Graphics Card	Intel® HD Graphics 630	Intel® HD Graphics 730	Intel® UHD Graphics 730				
Dedicated Graphics Card	Nvidia RTX3060 or higher	Nvidia RTX3060 or higher	Nvidia RTX3080 or higher				
AI Video Memory	16GB or higher	32GB or higher	64GB or higher				
Dynamic Video Memory	-	-	-				
System Disk Space	System SSD 256GB or higher	System SSD 256GB or higher	System SSD 500GB or higher				
Storage Disk Level	NAS PRO or higher	NAS PRO/Data Enterprise or higher	Data Enterprise or higher				
Internet Connection	1000Mbps RJ45 or higher	1000Mbps RJ45 or higher	1000/10000Mbps RJ45 or higher				
Minimum resolution for object recognition	Up to 120 X 120	Up to 120 X 120	Up to 120 X 120				
Monitor Resolution	1280 X 1024 Minimum Resolution	1920 X 1080 Recommended Resolution	1920 X 1080 or higher				

#### Note:

- 1. GPU decoder does not support AMD display cards
- 2. Windows 2012 R2 operating system is not recommended
- 3. Video recording HDD compatibility table, please contact the original manufacturer technical support.

	5.0 Facial Recognition System					
4 Monitors System Requirer	nent	6 Monitors System Requirement				
Operating System	Win11 Pro 22h2(64 Bit)	Win11 Pro 22h2(64 Bit)				
Processor Frequency	2.4Ghz or higher	2.6Ghz or higher				
Core Processor	6C/8T or higher	8C/16T or higher				
Processor	Intel® Core 10 ^h i7 or higher	Intel® Core 12 th i5 or higher				
Face Recognition camera number supported	2ch	4ch				
Dedicated Graphics Card	Nvidia RTX2060 or higher	Nvidia RTX3060 or higher				
Memory	32GB or higher	32GB or higher				
System Disk Space	SSD 256GB or higher	SSD 256GB or higher				
Storage Disk Level	1TB or higher	1TB or higher				
Internet Connection	1Gbps RJ45 or higher	1Gbps RJ45 or higher				
Face Recognition supported channels	Up to 2ch	Up to 4ch				
Minimum resolution for object recognition	Up to 80x80 pixels	Up to 80x80 pixels				
Camera resolution	1080P between 30 and 60 frames	1080P between 30 and 60 frames				
Monitor Resolution	1280 X 1024 minimum resolution	1920 X 1080 recommended resolution				

# Chapter 24.4 Other Peripheral Hardware Support Table

	Hardware Support List				
Supported Device	Supported Model				
Our 3D Keyboard	Use USB convert to RS-232/RS-485, PMH-RS485/USB USB to RS-232/485				
RS-232 POS System	RS-232 to TCP/IP network supports our 3D Keyboard or RS-232 POS. CYT-100SC RS485/RS232 to TCP/IP Converter				
Ethernet Cash Register Drawer	APG-480/APG-490				
MOXA Remote I/O Control Box	ioLogik E1210, E1211, E1212, E1214				
Embedded Video Decoder	Our Video Decoder				
Barcode Scanner	LS1203				
USB Fingerprint Lock	USB FINGERPRINT LOCK				
USB Microphone	DIKE DVM600				
PCle Network Card 2.5G	STL N-690(Intel 1225-V)				

PCle Network Card 10G	STL N-760(Aquantia AQC113CS)
Screen Adapter Cable DP TO HDMI 4K	UGREEN /DisplayPort to HDM
Screen EDID Emulator 4K	BENEVO Screen EDID Emulator (BVDHDMI4K)
Display Graphics Accelerator	GT 1030 GTX1050/1060 RTX 2060/2080/3050/3060/3070/3080/3090 RTX 4060/4080

## Chapter 24.5 Automatically Login In Windows 10& 11

This method applies to Windows 10 account. You do not need to enter your account password each time you turn on your PC. Windows 10 will automatically boot to the desktop.

Please be aware that enabling automatic login makes your computer more convenient to use but anyone can simply turn on the computer and access your personal data, so it's less secure than logging on manually. That needs to be taken into account.

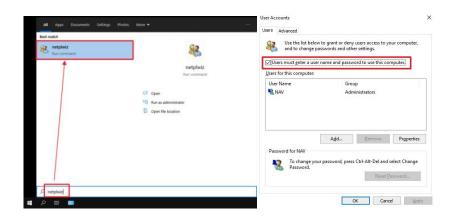
In addition, if it is "System logout" or "Account Lock", you have to enter the password to log in again. Which means this method is suitable for operating system booting only. And it is possible that entering a password is required in other operations.

The areas with unstable power, or Windows updates in the middle of the night, may reboot the system. In order to quickly restore system operation and maintain the LAN connection security, you can apply the following methods.

**Note:** Navigator 3.0 does not support switching between multiple Windows accounts. Please upgrade to version 5.0.

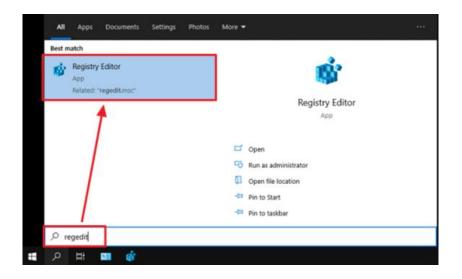
#### 1. Windows 10 User Account Settings

- 1. Type **netplwiz** into the Search bar and enter the username account.
- After open User Accounts, you will see Users must enter a user name and password to use this computer option ischecked by default. This means a username and password must be entered to log in.



3. If " Users must enter a user name and password to use this computer" is not available, the reason is that Windows 1803 is a newer version and Microsoft hides this option. To enable this function, please refer to the following:

• Type **regedit** in the search bar and enter the Register Editor.



 Navigate to the following path HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\WindowsNT\CurrentVersion\PasswordLess\ Device and change the DevicePasswordLessBuildVersion decimal value to 0.

İTT		FontDPI ^	ft\Windows NT\CurrentVersion\Passwo	Туре	Data
		FontIntensityCorrection	ab (Default)	REG SZ	(value not set)
	>	FontLink	B DevicePasswordLessBuildVersion	and a state of the second s	0x00000000 (0)
	>	FontMapper	Bevicer associatessballaversion	KEG_DITOND	000000000000000000000000000000000000000
		FontMapperFamilyFallback	Edit DWORD (32-bit) Value		X
	j (j [	Fonts	and a set on the bit of the		
		FontSubstitutes	Value name:		
	>	GRE_Initialize	DevicePasswordLessBuildVersion		
	>	ICM			
	>	Image File Execution Option	Value data: Base		
	>	IniFileMapping	·	Hexadecimal	
	-	KnownFunctionTableDlls	0	Decimal	
		KnownManagedDebugging			
	>	LanguagePack		OK Cancel	
		LicensingDiag			
		MCI Extensions			
	9.94	MCI32			
	· · ·	MiniDumpAuxiliaryDlls			
	>	MsiCorruptedFileRecovery			
	>	Multimedia			
	>	NaAuth			
	>	NetworkCards			
	>	NetworkList			
	>	NoimeModelmes			
	>	Notifications			
	·	NowPlayingSessionManage			
	>	NtVdm64			
	l	OEM			
	10	OpenGLDrivers			
	~	PasswordLess			
		Device			

**Note:** If there is no DevicePasswordLessBuildVersion option, please create DWROD.

• Run "netplwiz" again and Users must enter a user name and password to use this computer option will show up.

	w to grant or deny passwords and oth		our computer,
Users must <u>e</u> nter a use	er name and passw	ord to use this co	mputer.
sers for this computer:			2.5
User Name	Grou	ip.	
NAV NAV	Adm	inistrators	
	A <u>d</u> d	<u>R</u> emove	Pr <u>o</u> perties
Password for NAV			

- 2. Disable and Change User Accounts and Password Settings
- For user accounts, please click the **Advanced** tab. Then, click **Advanced** on Advanced User Management.

Jsers Advanced			
	elow to grant or de e passwords and o	ny users access to your comput ther settings.	ter,
Users must <u>e</u> nter a u	user name and pas	sword to use this computer.	
Users for this compute	r:		
Automatically sign in			
User name:	y signed in below:	7	
User name:			
User name: Password:		OK Ca	ncel
User name: Password:		OK Ca Reset <u>P</u> assword	ncel

**Note 1:** NAV host default user account: NAV; password: blank. **Note 2:** NAV host has the highest authority by default.

- Click Advanced.
- Click Advanced user management, and click on Advanced.
- Enter Local Users and Groups. Then click on Users on the console tree.
- Enter the redundant user account and check **Account is disabled**.

Parameter       Advanced         Vou can manage the passwords you have stored on this computer       Manage Passwords         Manage Passwords       Manage Passwords         Advanced user management       Social Users and Groups (Local)         Local Users and Groups can be used to perform advanced user       Advanced         Secure sign-in       Secure sign-in         Secure sign-in	Eile Eile	lusrmgr - [Local Users and Grou Action View Help				×
Now can manage the passwords you have stored on this computer       Manage Passwords         Manage Passwords       Manage Passwords         Advanced user management       Advanced user management tasks.         Advanced user management tasks.       Advanced         Score sign-in       Konese C Pode         Score sign-in       Advanced         Score sign-in       Actions         Score sign-in       Action score appear, protecting the system from programs that main is sign-in to retrieve password info.         Image: Advanced information informat	ers Advanced		2 ===			
Manage Passwords         Advanced user management         Manage Passwords         Advanced user management tasks.         Advana	· · · · · · · · · · · · · · · · · · ·		and a second	Description	Actions	 
Manage Passwords     Advanced user management     Advanced user management     Nov     Advanced     Advanced     Advanced     Nov     Advanced     Advanced <td></td> <td></td> <td></td> <td></td> <td>100000</td> <td>8</td>					100000	8
Advanced user management Advanced user management Advanced user management Advanced user management tasks. Advanced Cover sign-in Cover added security, you can require users to press Cht-Alt-Delete Defore sign-in to retrine password info. Decorption: Decorpt					More Actions	
Advanced user management Advanced user Management tasks. Advanced Secure sign-in More added security, you can require users to press Ctrl-Alt-Delete before signing in. This guarantees that the authentic Windows signing screen appears, protecting the system from projams that mimic a sign-in to retrieve password info. Require users to press Ctrl-Alt-Delete Ct. Cancel Apply	Manage Passwords		🛃 Guest		ABC1234	
Management tasks.       Advanced         Secure sign-in       Advanced         Point added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Enderson added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security, you can require users to press Crit-Alt-Delete       Machaber Of Profile         Image: Added security add	the second s			A user account manage	More Actions	
Secure sign-in for added security, you can require users to press Ctrl+Alt-Delete sign-in for service appears, protein the subtentic Windows sign-in to retrieve password info.	Local Users and Groups can be used to perform advanced user management tasks.		ABC1234 Properties	? ×		
For added security, you can require users to press Chil-Alti-Delete     before signing in. The substitute Windows     sign in screen signeers, your entry the system from programs     that mmit: a sign-in to retrieve password info.     Require users to press Chil-Alti-Delete     CK Cancel Apply     CK Cancel Apply	Advanced		General Member Of Profile			
Full rame:       ABC1234         Bergering in: This guarantees that the authentic Windows sign-in screen appears, protecting the system from programs that mimic a sign-in to retrieve password info.       Full rame:       ABC1234         Becoption:       Description:       Description:       Description:         Cox       Cancel       Apply       Password at net logon         Ox       Cancel       Apply       Password at net logon			ABC1234			
that mimic a sign-in to retrieve password info.	before signing in. This guarantees that the authentic Windows					
OK     Cancel	sign-in screen appears, protecting the system from programs that mimic a sign-in to retrieve password info.			]		
Ok     Cancel         Apply         Ok         Cancel         Apply         Ok         Cancel         Apply         Ok         Cancel         Apply <td></td> <td></td> <td>Description:</td> <td></td> <td></td> <td></td>			Description:			
OK Cancel Apply	Require users to press Ctrl+Alt+Delete		User must change password at next logo	1		
Ok Cance Appry						
	OK Cancel Apply					
			Account is locked out			
			OK Cancel	Apply Help		
OK Cancel Apply Hep			(	>		

**Note 1: Attention!** Windows requires at least one set of user account to log in. Disable all accounts will cause Windows login failure.

**Note 2:** For non-original NAV host users, it is recommended to keep at least one set of user accounts with the highest system administrator authority, and close the other user accounts.

#### 3. User Account Control Settings as Administrator

When only software license or a non-original NAV host is purchased, the user account does not necessarily have the highest privilege. Hence, have to configure the user rights through the following settings:

- Click User Accounts, and click on the Users must enter a user name and password to use this computer check box.
- Click Properties.
- Click Group Membership.
- Select Administrator.
- Click Apply to save the settings.

ser Accounts	X X11SPA-TF\NAV Properties
Users Advanced	General Group Membership
Use the list below to grant or deny users access to your computer, and to change passwords and other settings.	What level of access do you want to grant this user? O Standard user (Users Group)
Users must enter a user name and password to use this computer.	Standard account users can use most software and change system settings that do not affect other users.
Users for this computer:	
Licer Name Group	Administrator     (Administrators Group)
NAV Administrators	Administrators have complete access to the computer and can make any desired changes. Based on notification settings,
	administrators may be asked to provide their password or confirmation before making changes that affect other users.
	Other: Administrators
Add Remove Properties	
Password for NAV	J
To change your password, press Ctrl-Alt-Del and select Change Password.	
Reset Password	
	OK Cancel Apply
OK Cancel Apply	on cancer repry

## 4. Change User Account Name

When renaming the user account name arises, it can be modified as follows:

- Click User Accounts, and click on the Users must enter a user name and password to use this computer check box.
- Click Properties.
- Under General, modify the user name.
- Click Apply to save the settings.

	X11SPA-TF\NAV Properties	
isers Advanced	General Group Membership	
Use the list below to grant or deny users access to your computer, and to change passwords and other settings. Users must enter a user name and password to use this computer. Users for this computer: User Name Group NAV Administrators	User name: ABC Poll name: Description:	
Add Remove Properties Password for NAV To change your password, press Ctrl-Alt-Del and select Change Password. Reset Password		

**Note:** After modifying the user name, make sure to restart the computer. Otherwise, the account cannot be passed to execute some programs (For example: MegaRAID login)

#### 5. Store Username and Password in Computer Settings

- In the User Accounts dialog, select your user account first and then uncheck Users must enter a user name and password to use this computer. Click the Apply button and automatically sign in box pops up.
- Type your password, and then re-enter the password to confirm the same.
- Click OK to save the settings.

The next time the computer restarts, it will remember this set of passwords and automatically log in to the desktop.

Isers Advanced		
	elow to grant or deny users acc e passwords and other setting	
Users must <u>e</u> nter a	user name and password to us	e this computer.
Users for this compute	n.	
User Name	Group	
NAV NAV	Administrato	rs
	ssword to sign in. To do this, sy / signed in below:	pecify a user that will be
	NAV	
User name:		
User name: Password:	•••••	
User name: Password: Confirm Password:		

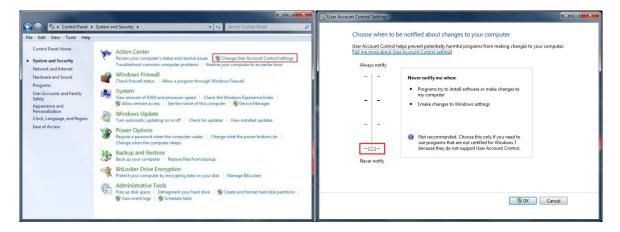
**Note:** After modifying the user password, make sure to restart the computer. Otherwise, the account cannot be passed to execute some programs (For example: MegaRAID login).

# Chapter 25 System Optimization

## Chapter 25.1 Windows Change User Account Control Settings

Before installing Navigator on Windows 7 and Windows 10, go to Control Panel  $\rightarrow$  System Security  $\rightarrow$  User Accounts  $\rightarrow$  Change User Account Control Settings and lower the setting to "Never Notify." This will confirm that when the watchdog timer reboots the system, Navigator will automatically open and log in.

Win7 Example:



#### Win10 Example:

				•	User Account Control	Settings		×
					User Account Control I	be notified about changes to your computer helps prevent potentially harmful programs from making changes t er Account Control settings	o your com	nputer.
<ul> <li>&amp; User Accounts</li> <li> <ul> <li></li></ul></li></ul>	and > User Accounts > User Accounts	× ð		× ¢		Never notify me when: <ul> <li>Apps try to install software or make changes to my computer</li> <li>I make changes to Windows settings</li> </ul>		
Manage your credentials Create a password reset disk Manage your file encryption certificates Configure advanced user profile properties	Make changes to your user account Make changes to my account in PC settings Change your account name Change your account type		DanielAPO Local Account Administrator Password protected	I	-	Not recommended.		
Change my environment variables	<ul> <li>Manage another account</li> <li>Change User Account Control settings</li> </ul>				Never notify	Фок	C	ancel

**Note:** User Account Control (UAC) is a feature in the Windows 7&10 operating system. When user account control is turned on, the application will always run with the security content of a non-administrator account, unless the system administrator specifically grants system access rights at the system administrator level. Otherwise, UAC will prevent the automatic installation of unauthorized applications. To turn off this feature, please set it as follows.

## Chapter 25.2 Turn off Hard Drive Defragment

In Windows OS, please go to Control Panel->System and Security->Defragment your Hard Drive->Configure Schedule->Uncheck "Run on a schedule (Recommended)".

😌 🍚 - 🍖 🕨 Control Panel 🕨 System and Security 🕨 🔹	Search Control Panel	× م		
File       Edit       View       Tools       Help         Control Panel Home       •       System and Security       Review your computer's status and resolve issues         •       System and Security       Network and Internet       Hardware and Sound       Programs       Image: Source of the status and resolve issues       Troubleshoot common computer problems       Rest         Windows       Firewall       Image: Source of the status       Allow a program through V         User Accounts and Family       Appearance and       Personalization       Clock, Language, and Region         Clock, Language, and Region       Ease of Access       Vindows Update       Turn automatic updating on or off       Check for up         Image: Power Options       Reguire a pasword when the computer valees       Change when the computer valees       Change when the computer yeas       C         Image: Power Options       Backup and Restore       Backup and Creatory       BitLocker Drive Encryption       Protect your computer   Restore files from backu       Image: Power Options         Image: Protect your computer   Restore files from backu       Image: Power Options       Protect your computer   Restore files from backu       Image: Power Options       Protect your computer   Restore files from backu       Image: Power Options       Protect your computer   Restore files from backu       Image: Power Options       Protect your comput	performance. <u>Tell me more ab</u> Schedule: Scheduled defragmentation is tur Run at 上午 01:00 every 星期三 Next scheduled run: 2018/7/11 Dis Current status:	rout Disk Defragmenter, rned on k Defragmenter: Modify	enter schedule configuration:	chedule

In Windows 10 OS, please go to Control Panel-> Security and Setting-> Defragment and optimize your drives, click on Change Setting and uncheck "Run on a schedule (Recommended)".

System and Security							-		×
– 🐳 🔹 🛧 🤜 > Control Pa	nel > Sys	tem and Security					s,	Search Co.	P
Control Panel Home System and Security Network and Internet Hardware and Sound	*	Security and Maintenance Review your computer's status and resolve issues Security Troubleshoot common computer problems Windows Firewall	e User Account Co				_		×
Programs User Accounts Appearance and Personalization		Check firewall status Allow an app through Windows Firew System View amount of RAM and processor speed Section Allow remo See the name of this computer		your drives to help your com Only drives on or connected t			out if ti	hey need	
Clock, Language, and Region Ease of Access File History	Power Options Change battery settings   Change what the power buttons d	Drive	Media type Solid state drive	Last run 9/10/2018 11:37	Current status OK (0 days since last run	n)			
	0	File History Save backup copies of your files with File History   Restore y	LATA (D:)	Hard disk drive Optimize Drives	7/6/2018 4:11 PM	OK (0% fragmented)			
	4	Backup and Restore (Windows 7) Backup and Restore (Windows 7) Restore files from backup		Optimization schedule					
	-	BitLocker Drive Encryption Manage BitLocker		Run on a schedule (r	ecommended)	-			
	and the second s	Storage Spaces Manage Storage Spaces		Frequency	Weekly			Optimize	
	6	Work Folders Manage Work Folders	Scheduled optim	Notify me if three	consecutive scheduled ru	F	Cha	nge setting	
	衔	Administrative Tools Free up disk space Defragment and optimize your drives View event logs Schedule tasks	Drives are be Frequency: W		Choos	*			
	£	Flash Player (32-bit)			OK	Cancel			
	(intel)	Intel(R) Computing Improvement Program						Close	

**Note:** SSD (Solid State Disk) principle is different than traditional HDD. SSD does not have magnetic head and disk does not have physical moving parts latency, when a command gets issued to access a magnetic zone, the circuit can be transmitted as soon as the circuit is turned on. The time required to read any magnetic zone is the same or much faster than traditional HDD, but traditional HDD can configure RAID5/50, there is no need to disk defragment to speed up. Therefore, it is recommended to turn off Hard Hard Drive Defragment to reduce system's loading.

#### Chapter 25.3 Turn off creating file content index

The indexing is mainly to establish contents of all computer files into searchable keywords, so as to quickly find the required files. Because the contents of the file are constantly confirmed, the hard disk reading is continuous resulting to high CPU usage rate. Turning off this feature doesn't make it impossible to find the file, it will only look for the name of the file.

Click on the recording HDD and right click  $\rightarrow$  Properties.

Uncheck the checkbox "Allow files on this drive to have contents indexed in addition to file properties" and apply all folders and files.

Computer V	Drive Tools This PC ew Manage		- • ×	~	(E:) Properties		
erties Open Rename	Access Map network Add a network	Open Manage		Security	Previous Versions	Quota	Customize
Location	media • drive • location Network	Settings We Manage System		General	Tools	Hardware	Sharing
-) + † 💶 > Tr			h This PC ,P	denoral	TOOIS	naiuwaie	Snanny
Quick access	Folders (6)						
Desktop #	Desktop	Documents		-	Disk (E:)		
Downloads 📌	Desktop	Documents		-			
Documents 🖈	Dewnloads	Music		Type:	Local Disk		
20180710				File system:	NTES		
FACE Setup	Pictures	Videos		The system.	NH S		
	Devices and drives (3)			Used spa	ce: 924,429,06	2 144 bytes	860 GB
This PC	Local Disk (C:)	(D:)					
Desktop	80.4 GB free of 111 GB	69.3 GB free of 931 GB		Free space	e: /5,//4,02	5,728 bytes	70.5 GB
Documents	(E:)			-			Contraction and the
Downloads	70.5 Open			Capacity:	1,000,203,08	7,872 bytes	931 GB
Pictures	Open in new wir Pin to Quick acc				10 10 10	10000	
Videos	S Turn on BtLock						
Local Disk (C:)	Open AutoPlay.	·					
(D:)	Share with	>					
(E:)	Restore previous 7-Zip	versions					
Network	CRC SHA	5				-	Disk Cleanup
	Include in lib an	· >			Drive	E:	Diore Diodridp
	Pin to Start						
				Compress	his drive to save disk	space	
				gue and account for a	and the second second	Contraction of	
	Format				on this drive to have o	contents indexe	d in addition to
	Серу			file properti	es		
	Create shortcut						
	Rename	V				2005	
					OK	Cancel	Apply

Apply changes to the driver and files.

Confirm Attribute Changes X	🖏 Applying attributes 🗆 🗙
You have chosen to make the following attribute changes: disable indexing	Applying attributes to:
Do you want to apply this change to drive D:\only, or do you want to apply it to all subfolders and files as well? O Apply changes to drive D:\only (a) Apply changes to drive D: subfolders and files	D:\Video\11CA13AD-C15E-4DFF-9368-5370D74A5ABD\ch08.mpg
OK Cancel	Cancel

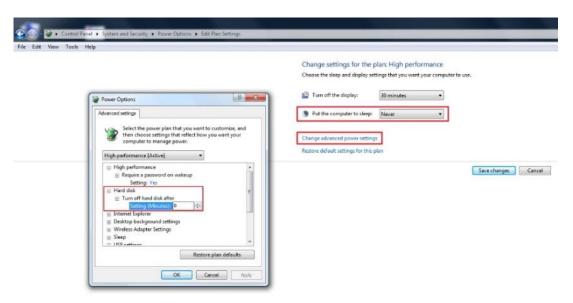
Note: You can apply the changes to the recording disks.

**Note:** It is recommended to perform this step before planning the system recording. Otherwise the pressure on the hard disk will be increased when the disk index is canceled during recording, which indirectly affects access of the image database from the local or remote.

### Chapter 25.4 Turn off Power Saving Mode

In Windows 7&10 Operating System, press Control Panel→System and Security →Power Option

- Put the computer to sleep: set to Never.
- Turn off hard disk after: set to 0.



Note: Turn off hard disk time setting can effectively reduce hard disk wake up time.

#### Chapter 25.5 NVIDIA Graphics Card Maximum Performance

If NVIDIA graphic card is use, mouse right click  $\rightarrow$  NVIDIA control panel $\rightarrow$  Manage 3D setting $\rightarrow$  Global Settings $\rightarrow$  Power management mode $\rightarrow$  Prefer maximum performance $\rightarrow$  Apply.

		Desktop 3D Settings He     O	T			
	Select a Task	ings st image settings with preview	🚊 Manage 3D Settings			Restore Default
		ige 3D settings Igure Surround, PhysX	You can change the global 3D settings and create	ovenides for specific programs. The oveni	des will be used automatically each time the specified programs are launched.	
	- Adja	ge resolution st desktop color settings te display	I would like to use the following 3D settings			
	Adja	p digital audio at desktop size and position p multiple displays	Global Settings Program Settings Settings:			
	Uldeo	st video color settings st video image settings	Feature CUDA - GPUs DSR - Factors DSR - Smoothness	Setting All Off Off	^	
View	>		Naximum pre-rendered frames Nulti-Frame Sampled AA (MFAA) OpenGL rendering GPU	Use the 3D application setting Off Auto-select		
Sort by	>		Power management mode Shader Cache	Prefer maximum performance On		
Refresh			Texture filtering - Anisotropic sample opti Texture filtering - Negative LOD bias	Off Allow		
Paste			Texture filtering - Quality Texture filtering - Trilinear optimization	Quality On		
Paste shortcut			Threaded optimization Triple buffering Vertical sym: Virtual Reality pre-rendered frames	Auto Off Use the 3D application setting Use the 3D application setting	•	
NVIDIA Control Panel				an R	estore	
New	>		Description: Select the GPU to be used by OpenGL applications.	Choosing a GPU that is part of an SLI or M	osaic group will effectively	
Display settings			select every GPU in that group.			
Personalize	<	> Information				

Note: If NVIDIA graphic card driver gets updated, it might restore default automatically.

### Chapter 25.6 NVIDIA GeForce Experience

This is used to record and share game videos, and broadcast live on YouTube, Twitch and Facebook. When installing the graphics card driver, please do not install GeForce Experience. For monitoring system stability, there is no need for video streaming and frequent automatic driver update

• Please select manually [NVIDIA Graphics Driver] •

NVIDIA Installer			×
NVIDIA Graphic: Version 471.96	s Driver	Nu Nu	
System Check License Agreement Options Install Finish	<ul> <li>NVIDIA Graphics Driver and GeForce Experience</li> <li>NVIDIA Graphics Driver</li> </ul>		
By installing you agree to the foll End User License Agreement NVIDIA Privacy Policy	owing:	<u>C</u> ANCE	iL.

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