

Merit LILIN Application Note

How to setup the Navigator Archive Manager to sync files from an IP camera SD Card to Navigator Server

Document Number : A00150 Date : 2018/05/14 Dept : Technical Support, Taipei

Subject: How to set up Navigator Archive Manager to recover and sync video files with an IP Cameras SD card in case of network loss

Concerned device: MR IP camera series version 4.2.84 (2MP) and 5.2.84 (4MP)

IP camera must have working SD card and must be powered by DC12V adapter

Diagram





Log in into the camera browser interface then click on Notification and SD Card Service

9 LILIN			Live	Basic I	Mode Ad	lvance Mode	e Language Logo
System	Video / Audio	Network	Evo	ent	Noti	fication	Maintenance
FTP Service SMTP Service	Advance >	> Notification >	> SD Card S	ervice			
HTTP POST Service SD Card Service SD Card Backup File SAMBA Service MQTT Service	SD Recordin SD Recordin SD Recordin Recording Fo Pre Record T SD Card Sta SD Card Sta SD Card Tot SD Card Free	g g OSD g Continuous ormat tus tus te al Bytes e Bytes Submit	On On	Off Off ✓ Plug In ◀ Mount	Format		

As you can see SD CARD State shows 'SD card No Plug In'

Insert the micro SD card in camera the SD card slot. Make sure it is inserted the correct way. Kindly refer below:





Click on the refresh icon of the browser



Note: Mini SD card are not supported.



You will see the message **SD Card Plug In**, which mean the SD card is detected, click on **Format** to make sure to erase previous data recorded from other IP cameras.

Advance >> Notification >> SD Card Service								
SD Recording	◯ On ◉ Off							
SD Recording OSD	◯ On ◉ Off							
SD Recording Continuous	◯ On ◉ Off							
Recording Format	Encoder1 🗸							
Pre Record Time	5 🗸 Sec.							
SD Card Status	NORMAL							
SD Card State	SD Card Plug In							
SD Card Total Bytes	60875 MBytes							
SD Card Free Bytes	60841 MBytes							
Submit	Unmount Mount Format							

A warning message will pop up, click on OK

Message from webpage	×
Format sd card will force	e SD Recording disabled, Are you sure?
	OK Cancel

Another message will appear, just wait until it disappears

Advance >> Notification >> SD Card Service								
SD Recording	◯ On ◉ Off							
SD Recording OSD	🔿 On 🖲 Off							
SD Recording Continuous	🔿 On 🖲 Off							
Recording Format	Encoder1 V							
Pi Waiting For System Reboot 297 sec								
SD Card Status	NUKIVIAL							
SD Card State	SD Card Plug In							
SD Card Total Bytes	60875 MBytes							
SD Card Free Bytes	60841 MBytes							
Submit	Unmount Mount	Format						



The SD card details will show total bytes space and free bytes space number, these numbers should be the same.

SD Recording	🔿 On 🖲 Off	
SD Recording OSD	◯ On	
SD Recording Continuous	◯ On	
Recording Format	Encoder1 V	
Pre Record Time	5 🗸 Sec.	
SD Card Status	NORMAL	
SD Card State	SD Card Plug In	1
SD Card Total Bytes	60875 MBytes	
SD Card Free Bytes	60875 MBytes	
Submit	Unmount Moun	t Format

Turn SD Recording **On** and SD Recording OSD **On**, then click on Submit. We don't recommend you enable continuous recording on SD cards as it would reduce SD card lifetime, as it keeps recording to it 24/7.

SD Recording OSD Image: On Ima	SD Recording	● On ○ Off			
SD Recording Continuous On ● Off Recording Format Encoder1 ∨ Pre Record Time 5 ∨ Sec. SD Card Status NORMAL SD Card Status SD Card Plug In	SD Recording OSD	● On ◯ Off			
Recording Format Encoder1 ✓ Pre Record Time 5 ✓ Sec. SD Card Status NORMAL SD Card State SD Card Plug In	SD Recording Continuous	🔿 On 🖲 Off			
Pre Record Time 5 ✓ Sec. SD Card Status NORMAL SD Card State SD Card Blue In	Recording Format	Encoder1 🗸			
SD Card Status NORMAL	Pre Record Time	5 🗸 Sec.			
SD Card State	SD Card Status	NORMAL			
SD Card State SD Card Plug III	SD Card State	SD Card Plug In			
SD Card Total Bytes 60875 MBytes	SD Card Total Bytes	60875 MBytes			
	CIT Cord Lroo Dutoo				



Recording Format, you can choose between 1st encoder or 2nd encoder, depending on your bandwidth conditions on site

To check encoder parameter go to Video/Audio \rightarrow General and you will see current parameters

Encoder1	
Profile Name	H.264 🗸
Resolution	2688x1520 🗸
Output Frame Rate	15 🗸
GOP (Group of Pictures)	15 🗸
Stream Mode	CBR 🗸
Bit Rate	5 Mbps 🗸
RTSPURL	rtsp://192.168.100.206/stream0
Encoder2	
Profile Name	H.264 🗸
Resolution	720x480 🗸
Output Frame Rate	15 🗸
GOP (Group of Pictures)	15 🗸
Stream Mode	CBR 🗸
Bit Rate	1 Mbps 🗸
RTSPURL	rtsp://192.168.100.206/stream1

Click on Event > Network Detection > No Network Activity Enable > Submit

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×	ı 9 lilin			1 Live Basic M	ode Advance Mode
	System	Video / Audio	Network	Event	Notification
	Event IVS	Advance	e >> Event >> Ne	twork Detection	
	Motion Detection	No Netwo	rk Activity	2 • Enable O Disable	
	Audio Detection		L	Submit	
	Alarm Detection				
2	Network Detection	Ĵ		4	
	Push Service Setting	Ĵ			
		_			

Next, click on Event > Select Network Detection as Event Name > Edit Event.

	System	Video / A	udio	Netv	vork		1	Event		Notif	ication	
2	Event IVS		Advance >> I	Even	it >> Eve	ent						
	Motion Detection	j	Event Name	Ν	Iotion Det	ectior	1	Edit Ev	ent 4			
	Tamper Detection			3	amper De	etection	n	1			1	
	Audio Detection		Event 🗳		larm Dete	ection		SD	SAMBA	Alarm	HTTP	ISN
	Alarm Detection			<u> </u>	letwork D	etectio	on	Card		Output	P031	
	Network Detection	<u>_</u>	Motion Detection	-	Disable							
	Push Service Setting	$\overline{\mathbf{D}}$	Tamper Detection	<u>n</u>	Disable							
			Audio Detection		Disable							
			Alarm Detection		Disable							
			Network Detectio	<u>n</u>	Enable	-	-	V	-		-	
			t									

In this	Advance >> Event:	>> Event	section, tick SD
Card		Event	Service, then
click on			Submit to apply
setting			
	Event	Network Detection	
	Enable	\checkmark	
		SD Card Service	
		☐ Alarm Output Dwell Time 5 ✔ Sec.	
	Schedule	 Always 	6
		◯ Schedule	
		Submit Cancel	

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It should now look like this

Advance >> Event	>> Event
Event	Network Detection
Enable	
Schedule	 SD Card Service Alarm Output Dwell Time 5 Sec. Always Schedule
	Submit Cancel

The camera will leave the setting and display the whole table, Network Detection Status cell should show Enable and SD card cell should have tick symbol like below picture



Event	Status	FTP	SMTP	SD Card	SAMBA	Alarm Output	HTTP POST	SNMP Trap	Push Service	Schedule
Motion Detection	Disable									Auto
Tamper Detection	Disable									Auto
Audio Detection	Disable									Auto
Alarm Detection	Disable									Auto
Network Detection	Enable	-	-	V	-		-	-	-	Auto
	1			1						

Once this function is enable, if the network cable on switch side is disconnected, the camera will start recording to the SD card automatically.

On the Navigator software, if you see on top left a blue SD card icon, it means that the SD card is detected but not set on continuous record.



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1. Choose the camera



2. Click on Used to manual setup archive

Archive Archive Log Sync			
Sync Destination Setup			
Used NAV Channel	#001 #001 MR6442A	×**	Status

 Select the server type, you can choose between NAV Streaming Server, NVR/DVR or IP Camera SD Card File. For example, we choose IP Camera SD Card File



Sync Source Setup		
Server Type	IPCam SD Card File	\sim
Server IP/DNS	NAV Streaming Server NVR/DVR IPCam SD Card File	
Server Port	80	

4. Key-in the information such as server IP, port, user name and password. Then click on Apply

Sync Source Setup	
Server Type	IPCam SD Card File
Server IP/DNS	192.168.100.206 X
Server Port	80
Username	admin
Password	••••
Source Channel	Cam 001 V Refresh
	Apply

- 5. Sync mechanism, select **Smart Overwritten** and set 2 seconds, this mean if Navigator have data from 16:08:05 to 16:08:17, it will backup from 16:08:03 to 16:08:19,
- 6. Sync time, select **Start Older Recording Time**, if you want backup video recording of a specific period, click on **User Defined Time**

Sync Mechanism Overwritten Smart Overwritten	○ No Overwritten2 ~ Seconds
Sync Time Start Older Recording User Defined Time	Time
Today ~	00 : 00 03/20/2018

- 7. Schedule time
 - a. If you choose Real-Time every hour, it will check the missing data and recover it to the Navigator hard disk so you can playback normally



b. If you choose scheduled, it will sync one time a day at specified time by user

Schedule Only Once	
Start time	16:29 03/20/2018
End time	16:29 03/20/2018
Real-TimeScheduled	
▼ Sun ∨ 16	5:30 Apply All
	Apply

Set up the recording schedule for the whole week, if you want to sync the video at night when the office is closed, select the required period



Click on Start

_		
	Start	

All the options will be in grey



Used NA	/ Cha	nnel			1	#001	#001	MR6	442A				/		Stat	us										
Sync Source Setup												_										Schedule				
erver Type		IPCar	n Sl) Car	d File		\sim	2	Sync Mechanism											Only O	Only Once					
erver IP/DNS		192.1	68.	100.2	206		x		Creat Overwritten							2 Seconds						Start time		16:29 03/20/2018		
oner Port		80							Smart Overwritten 2 Seconds								End time 16 : 29 03/20/2018									
erver Porc								2	ync i	Start	Olde	r Do	cordi	na T	ime							0.01.71				
Isername		admi	n					Start older Recording Time									Rear filme Scheduled									
assword		••••							0	User	Defir	1ed T	lime									Schedu	lea			
ource Channel	Cam 001 V Refresh					Today 00:00 03/20/2018									0/20	🖓 Sun 🗹 17 : 20 🐥 Apply All										
ource channel		Calli	001			Annha				A .		a.11								A						
) di					-					A									-		Ŋ				Ap	ргу
	01	02	13	04	05 1	06 07	0.8	00	10	11	12	13	14	15	16	17	18	10 2	20 2	1 2	2 23	 So 	urce	Video Recording		
Sunday	01	02	~			10 01	100	0.5	10		12	10		10	10	"		1.5 2	20 2	. ' ' '	2 25		Svno			
Monday																						- 0				
Tuesday																										
Wednesday																									App	ply
Thursday																								Apply a Week		
Friday																										_
Saturday																							A	Apply All Channe		

Then click on minimize icon



Scenario

Navigator is connected to the camera recording normally from 15:30, then at 16:08, there's sudden connection issue between IP camera and Navigator, possibly caused due to a disconnection on the PoE switch or on an IP camera, the IP camera doesn't detect any stream request start, the SD card will start recording from 16:08 to 18:55, 18:55 is when the connection is recovered, and NAV resumes its recording of the camera.





Now what we want is when there is an issue in the network, such as PoE switch outage, the camera will start record to its own SD card.

Ensure the camera is powered by a 12v DC power supply. Disconnect the camera RJ45 cable from the PoE switch.



The diagram should look like this now, DC12V adapter should still be connected to camera so it can record video on SD card.



Proceed to playback in Navigator,



You will see that there are some data unavailable, last recording stopped at 16:08, which corresponds to



the time when there was a simulated problem with the network.



Reconnect the RJ45 cable to the PoE switch to simulate a network recovery. When you go to Archive Manager, click on Archive Log, sync data list should appear. In our example we disconnected the RJ45 cable at 16:08, so the first log is 16:08, and because our IP camera backup is one file = one minute, the list may be very long

😫 Navigator Archive Manager	r 64 Bits	
Archive Archive Log Sync		
Backup Status		Backup Log
Channel	Status	#001 MR6442A sync time: 2018/03/20_16:08 #001 MR6442A sync time: 2018/03/20_16:09
#001 #001 MR6442A	sync time: 2018/03/20 16:25	#001 MR6442A sync time: 2018/03/20 16:10 #001 MR6442A sync time: 2018/03/20 16:11 #001 MR6442A sync time: 2018/03/20 16:12
		#001 MR6442A sync time: 2018/03/20 16:13 #001 MR6442A sync time: 2018/03/20 16:14
		#001 MR6442A sync time: 2018/03/20 16:15 #001 MR6442A sync time: 2018/03/20 16:16 #001 MR6442A sync time: 2018/03/20 16:17
		#001 MR6442A sync time: 2018/03/20 16:18 #001 MR6442A sync time: 2018/03/20 16:19
		#001 MR6442A sync time: 2018/03/20 16:20 #001 MR6442A sync time: 2018/03/20 16:21
		#001 MR6442A sync time: 2018/03/20 16:22 #001 MR6442A sync time: 2018/03/20 16:23
		#001 MR6442A Sync time: 2016/03/20 16:25

Please be careful during process, as this takes lot of CPU and bandwidth

🖓 Task Manager						_
Processes Performance App history Start	up Users Det	ails Services				
^	26%	42%	4%	75%	0%	
Name	CPU	Memory	Disk	Network	GPU	GPU Engine
Apps (8)						
> 😝 Archive Manager 64 Bits	14.8%	9.5 MB	6.4 MB/s	49.0 Mbps	0%	
> <i>i</i> Internet Explorer	0%	24.0 MB	0 MB/s	0 Mbps	0%	



The last backup data is 18:55

#001 MR6442A sync time: 2018/03/20 18:46 #001 MR6442A sync time: 2018/03/20 18:47 #001 MR6442A sync time: 2018/03/20 18:48 #001 MR6442A sync time: 2018/03/20 18:49 #001 MR6442A sync time: 2018/03/20 18:50 #001 MR6442A sync time: 2018/03/20 18:51 #001 MR6442A sync time: 2018/03/20 18:51 #001 MR6442A sync time: 2018/03/20 18:52 #001 MR6442A sync time: 2018/03/20 18:52 #001 MR6442A sync time: 2018/03/20 18:53 #001 MR6442A sync time: 2018/03/20 18:53 #001 MR6442A sync time: 2018/03/20 18:53 #001 MR6442A sync time: 2018/03/20 18:53
#001 MR6442A sync time: 2018/03/20 18:55 #001 MR6442A [2018/3/20 18:58] Sync End

If you return to the Navigator playback, it will able to playback all data since 15:30 including the missing period from 16:08 to 18:55

2018/03/20 16:08:00
2018/03/20 16:09:00
2018/03/20 16:10:00
2018/03/20 16:11:00
2018/03/20 16:12:00
2018/03/20 16:13:00
2018/03/20 16:14:00
2018/03/20 16:15:00
2018/03/20 16:16:00
2018/03/20 16:17:00
2018/03/20 16:18:00
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2018/03/20 16:23:00
2018/03/20 16:24:00
2018/03/20 16:25:00
2018/03/20 16:26:00
2018/03/20 16:27:00
2018/03/20 16:28:00
2018/03/20 16:29:00
2018/03/20 16:30:00
2018/03/20 16:31:00
2018/03/20 16:32:00
2018/03/20 16:33:00
2018/03/20 16:34:00