

VNNOX One-Stop Cloud Platform

V1.0.0



Change History

Version	Date	Description	Modified By
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1 Overview

About This Document

This document introduces how to remotely monitor the synchronous or asynchronous LED display control system with iCare and includes the limitations on product models, monitoring ranges, etc. depending on different hardware connections, helping beginners get started with iCare.

About iCare

iCare is a free cloud monitoring service capable of monitoring LED display control systems in a centralized manner and sending alarm notifications. This service comes with an enterprise-level one-stop monitoring solution that works out of the box for cloud users. By using resource grouping management, iCare enables specially-assigned persons for management, duty allocation and data isolation.

iCare provides all-round monitoring for sending cards, receiving cards, monitoring cards, multifunction cards and smart modules in LED display control systems. By sending emails according to the specified rules for alarms, faulty LED rate, periodic inspection and so on, users are notified of the control system health in a timely manner, improving maintenance efficiency.

Hardware Configuration and Monitoring Items

	Basic Hardware Configuration	Additional Hardware Configuration (Optional)			al)
Monitoring Item	Sending Card/Taurus +Receiving Card	Monitoring Card	Smart Module	Multifunction Card +Light Sensor	Camera
Online/Offline time	\checkmark				
Control system temperature	\checkmark				
Player resource usage	1				
Sending card working status	1				
Sending card Ethernet port redundancy status	V				
DVI status	\checkmark				
Hardware connection status	\checkmark				
Receiving card	\checkmark				
Receiving card working status	\checkmark				
Receiving card voltage	\checkmark				
Receiving card temperature	\checkmark				
Screen brightness readback	\checkmark				
Scheduled brightness adjustment	\checkmark				
Monitoring card working status		√			
Monitoring card voltage					



	Basic Hardware Configuration	Additional Hardware Configuration (Optional)			
Monitoring Item	Sending Card/Taurus +Receiving Card	Monitoring Card	Smart Module	Multifunction Card +Light Sensor	Camera
Smoke alarm		\checkmark			
Cabinet door status		\checkmark			
Fan speed		\checkmark			
Flat cable status		\checkmark	\checkmark		
Individual LED detection for modules		V	\checkmark		
Smart module working status			\checkmark		
Smart module voltage			\checkmark		
Smart module temperature			\checkmark		
Ambient brightness readback				1	
Smart brightness adjustment				V	
Monitoring picture					\checkmark

During hardware product selection, please note the following:

- For the basic configuration, choose the appropriate sending card/Taurus series multimedia player and receiving card based on the actual needs and screen size.
 - Synchronous control system: Sending card+Receiving card
 - Asynchronous control system: Taurus series multimedia player+Receiving card
- Monitoring cards and smart modules cannot be used for monitoring simultaneously.
- When a monitoring card is used for monitoring, its model is MON300 and it works with the MRV320 and MRV560 receiving cards.
- When a smart module is used for monitoring, it works with the A4, A4s, A5, A5s, A7, A7s, A8, A8s, A9s, A10s Plus, XC200, XC100 and B4s receiving cards.
- When a light sensor is used for monitoring, it works with the MFN300 multifunction card.
- When a camera is used for monitoring, the supported camera models include Hikvision DS-2DE4223IW-DE (B) and DS-2CD2626FWDV2-IS (2.7-12mm), and Dahua DH-IPC-HFW2433DM-LED.

Getting Started with iCare







2 Preparation

2.1 Installing Software

Synchronous Control System

Get and install the software listed in Table 2-1. The table only lists the features mentioned in this document.

Table 2-1 Required software

Name	Туре	Description	Where to Get
NovaLCT	PC client	LED configuration tool for Windows only, used mainly for configuring screens, binding screens to iCare and configuring monitoring	www.novastar.tech

Asynchronous Control System

Get and install the software listed in Table 2-2. Install either ViPlex Handy or ViPlex Express. The table only lists the features mentioned in this document.

Table 2-2 Required software

Name	Туре	Description	Where to Get
ViPlex Handy	Mobile client	LAN-based screen management software for Android and iOS, used mainly for binding screens to iCare	
ViPlex Express	PC client	LAN-based screen management software for Windows only, used mainly for binding screens to iCare	http://www.en.vnnox.com/download
NovaLCT	PC client	LED configuration tool for Windows only, used mainly for configuring screens, binding screens to iCare and configuring monitoring	www.novastar.tech

2.2 Obtaining Information

The asynchronous control system requires the information listed in Table 2-3. You are advised to change the default password to enhance security.

Table	2-3	Reau	uired	infor	mation
1 abio	20	1,040	anou		nauon

Action	Default Name	Default Password
Connecting to the Wi-Fi AP of the Taurus	AP name: AP+ <i>Last 8 digits of SN</i> Example: AP10000033	12345678
Logging in to the Taurus	User name: admin	123456



3 Connecting Hardware Devices

Synchronous Control System

Connect the PC with NovaLCT installed to the sending card with a control cable (USB cable or Ethernet cable), as shown in Figure 3-1. The MCTRL4K is used as an example of a sending card. You can choose the smart module, monitoring card, multifunction card, light sensor, etc. according to your actual needs.

Connect the PC with NovaLCT installed to the Internet, and the synchronous control system is connected to the Internet.

Figure 3-1 Hardware connection example



Asynchronous Control System

The PC with NovaLCT installed sends control commands, parameters and configuration files to the multimedia player via Ethernet cable or Wi-Fi network, as shown in Figure 3-2 and Figure 3-3. The TB6 is used as an example of a multimedia player. You can choose the smart module, monitoring card, multifunction card, light sensor, etc. according to your actual needs.

The Taurus can be connected to the Internet via any of the following:

- Wired network
- Wi-Fi network
- 4G network

Notes:

To connect the Taurus to the Internet via Wi-Fi network, the Taurus must support Wi-Fi Sta. The Taurus series products that support Wi-Fi Sta include the TB3, TB6 and TB8.

To connect the Taurus to the Internet via 4G network, buy and install the corresponding 4G module in advance. The Taurus series products that can be installed with 4G modules include the TB1-4G, TB2-4G, TB3, TB4, TB6 and TB8.

Figure 3-2 Direct connection



Figure 3-3 LAN connection



HAN NOVASTAR TECH CO. ILI



4 Configuring Screens

Applications

To make sure that content can be correctly displayed on an LED screen, screen configuration is required after you set up the LED screen control system. Here we only introduce how to configure a screen when there is an appropriate configuration file. To configure a screen manually, see the Screen Configuration section in the user manual for NovaLCT.

Prerequisites

The system configuration file (.scfg) is prepared.

Operating Procedure

Step 1 Open NovaLCT.

- Step 2 Choose User > Advanced Synchronous System User Login/Media Player Login, then enter your user name and password according to the onscreen instructions.
 - For the synchronous system, choose **Advanced Synchronous System User Login**. The default password is "admin".
 - For the asynchronous system, choose **Media Player Login**, select the target terminal and click **Connect System**. The default user name is "admin" and the default password is "123456".
- Step 3 Click Breen Configuration or choose Settings > Screen Configuration from the menu bar to open the dialog box shown in Figure 4-1.

Figure 4-1 Screen configuration method selection

Screen Configuration			X
-Select Communication	Port		
Current Operatio	Сомээ		
Configure Screen C Load Config	.014	Browse	
	Next	Close	

- Step 4 Choose a communication port.
- Step 5 Select Load Configuration File.
- Step 6 Click **Browse**, then select the configuration file and click **Open**.
- Step 7 Click **Next** to start loading the configuration file.

After the file is loaded, the dialog box shown in Figure 4-2 is closed automatically.

Figure 4-2 Loading the configuration file

Screen Configuration	>
Select Communication Port	
Current Operatio	
Configuring screen, please wait (1/3)	
C Con	
© Loar	vse
Next Clo	se



5 Registering for an Account and Logging In to iCare

Applications

iCare is a free service which becomes available to you automatically as soon as you create a VNNOX account.

Operating Procedure

Registering for a VNNOX Account

- Step 1 Visit www.en.vnnox.com and click **Sign Up** at the upper right of the page.
- Step 2 Select a server node and click **OK**.
- Step 3 Select Register by Phone or Register by Email, then enter the required information.

Step 4 Click Register.

Logging In to iCare

- Step 5 Visit www.en.vnnox.com and click Log In at the upper right of the page.
- Step 6 Select a server node and click OK.

Figure 5-1 Home page of the cloud platform

		202 - :
VNNOX Standard	VNNOX AD	iCare
Universal content publishing and terminal management, complete functionality and ease of use.	Friendly design for ad users' habits, flexible role and permission management	All-round screen status monitoring and timely email notifications, remote real-time checking, and flexible role and permission management
Open	Open	Open

Step 7 Click anywhere in the iCare section to access the home page of iCare.

When you access iCare for the first time, the onscreen instructions of setting the default system will be displayed. If you set iCare as the default system, you will access the home page of iCare directly after logging in to VNNOX next time.

Viewing iCare Authentication Information

- Step 8 After successful login, choose 2 > Player Authentication.
- Step 9 View iCare authentication information, as shown in Figure 5-2.

Figu	ure 5-2 Player auto	enucation information		
≣			3	2 alianti ~
Hom	e / Player Authentication			
	VNNOX Standard/AD Authe	ntication Information		Сору
	Server Address	China View		
	Authentication User Name	Modify		
	Authentication Password	Modify		
	iCare Authentication Inform	ation		Gapy
	Server Address			
	Usemame			



6 Binding Screens to iCare

After you bind your screens to NovaStar's iCare, you can access iCare anytime, anywhere to remotely monitor the working conditions of your screens in a centralized manner.

- For NovaStar's synchronous control system, go to 6.1 Binding to iCare with NovaLCT.
- For NovaStar's asynchronous control system, go to 6.2 Binding to iCare with ViPlex.

6.1 Binding to iCare with NovaLCT

Prerequisites

- The screen configuration is done.
- Your computer is connected to the Internet.
- The iCare authentication information is obtained.

Log in to VNNOX (www.en.vnnox.com). On the home page of the cloud platform, choose A > Player Authentication.

Operating Procedure

Step 1 Open NovaLCT.



- Step 2 Click Monitoring or choose Tools > Monitoring from the menu bar.
- Step 3 Click Configuration.
- Step 4 On the Refresh Period tab page, select Automatic Refresh and Link to NovaiCare, then click Save and OK.

MonitorSite - Settin	ngs	×
MonitorSite - Settin Refresh Period Hardware Settings Alarn Monitoring Con Ensil Ensil Log	Mus Refrash Period Automatic Refrash Period Set Rereading Times Set Rereading Times Mben failing to read status, the 0 = Times Link to HovaiCare Link to HovaiCare	X
	Save	

Figure 6-1 Monitoring configuration

Note:

If your settings cannot be saved, please do the following:

- 1. On the desktop taskbar, right-click **Markov**, select **Exit** and click **OK**.
- 2. Click Monitoring to restart the monitoring function.





Step 5 Click coud Monitoring or choose Settings > Cloud Monitoring from the menu bar.

Figure 6-2 Registering screens with iCare

Screen Name Width Height Registration S MB9-Screen 512 256 -	Server: 127.0	0.1	Us er	Refresh
MB9t=Sareen) 512 256 🛒	Screen Name	Width	Height	Registration Sta
	19-Sareen)	512	256	10
	199-Sareen)	512	256	
	MƏ9-Şareeni	512	256	5
	MƏ9-Sareen)	512	256	1
	M39-Sarsen)	512	256	10

Step 6 Click Modify Registration.

-igure 6-3 Modifying registration	n	
🚺 Server 📃		
🚺 Enter User Wame		
20		
1 Inter Spreen Mane		
Screen [COM59-Screen]	C I	
	A	
	7.	
	Register	

Step 7 Select a server, and enter your VNNOX user name and screen name. Click Register.

The authentication information must be consistent with the iCare authentication information in VNNOX.

Step 8 After the registration is done, click **OK**.

6.2 Binding to iCare with ViPlex

Prerequisites

- The screen configuration is done.
- Your computer is connected to the Internet.
- The iCare authentication information is obtained.

Log in to VNNOX (www.en.vnnox.com). On the home page of the cloud platform, choose \mathbb{Z} > Player Authentication.



Operating Procedure

You can bind screens to iCare with ViPlex Express or ViPlex Handy. Here we use ViPlex Express as an example.

- Step 1 Connect your PC to the Wi-Fi AP of the Taurus.
- Step 2 Open ViPlex Express.
- Step 3 Click **Refresh** to refresh the screen list.

After detecting the Taurus, ViPlex Express will try to log in to the Taurus with the default account or the account used for the last login.

- Denotes that the Taurus is offline and you cannot log in to it.
- • Enotes that you have successfully logged into the Taurus.
- Step 4 Click **Connect** next to the screen information.
- Step 5 Enter the password for the "admin" user and then click **OK**.

The default password is "123456".

- Step 6 Choose Terminal Control > Server configuration.
- Step 7 Select the target terminal from the terminal list.

Figure 6-4 Server configuration

		Server configuration	v	x
		Current screen:	Taurus-40002453	
Screen Name 💲	Screen IP 🜲	information Obtained On:	2020/0/24 1/303:15	
Taurus-40002453	172.18.12.125	Bind to VNNOX Standard/AD		
		Server address		
		Authentication User Name		
		Authentication password	¢.	
		Status	Unbound	
		Bind to iCare		
		Server address	China ~	
		User Name		
		Status	Bound	
				Read back

Step 8 In the Bind to iCare area, select a server and enter your VNNOX user name.

The authentication information must be consistent with the iCare Authentication Information in VNNOX.

7 Monitoring Screens with Monitoring Cards

If a monitoring card is connected between the module and receiving card, complete the operations in 7.1 Configuring Monitoring Items and 7.2 Setting Monitoring Thresholds in turn to enable remote monitoring of the monitoring card humidity, monitoring card voltage, smoke, fan, monitoring device power supply, flat cable, cabinet door, etc., allowing you to know about and deal with the abnormal conditions in a timely manner.

7.1 Configuring Monitoring Items

Applications

If monitoring cards are connected, you need to connect NovaLCT to the monitoring cards and configure the monitoring items in NovaLCT.

Applicable Products

Applicable to the MON300 monitoring card. This card works with the MRV320 and MRV560 receiving cards.

Operating Procedure

Step 1 Open NovaLCT.

- Step 2 Choose User > Advanced Synchronous System User Login/Media Player Login, then enter your user name and password according to the onscreen instructions.
 - For the synchronous system, choose **Advanced Synchronous System User Login**. The default password is "admin".
 - For the asynchronous system, choose **Media Player Login**, select the target terminal and click **Connect System**. The default user name is "admin" and the default password is "123456".



- Step 3 Click Monitoring or choose **Tools** > **Monitoring** from the menu bar.
- Step 4 Choose **Monitoring** to open the monitoring page.

1999-Screent			_			_	_			_	
								-Iow	ning 0.40		
									Mornal Fault Voltage Unknown	E	
fine of Acquiring the Cu Statistical Information Total Quantity of Receiv Pault (alars) Informatic	rrent Munitor ing	ing Data	16 42 36	5					đ		uni taria
Duantity of Faulted Rece Cards:	lving 0		Quantit vith Va	y of Rec liage Ex	eiving Ca ception	w ^d 0					Confi gur
Screen Name						8	V	U	•		6
COM99-Screent	•	0	•	٠	0	0	0	٠	0	0	嗯

- Step 5 Click Configuration.
- Step 6 On the **Hardware Settings** tab page, select **Connect to Monitoring Card** and set the monitoring items. After the settings are done, click **Save**.



Monitoring items include monitoring card humidity, monitoring card voltage, smoke status, fan speed, device power supply, flat cable status and cabinet door status.

Figure 7-2 Hardware settings

MonitorSite - Setti	ings	l
Refresh Period	Select Sursen to [0]#89-Sursen]	
Hardware Settings Alarn	Connect to Woniteri Connect to HUB Menitering Connect to Smart Hebule Use 2 receiving car	
Monitoring Con Ensil	Enfrenk Backup Fover Supply Backup Fover Supply Quantity 2	
Enail Log	✓ Refresh Kunidity ✓ Refresh Snoke ✓ Refresh Rabinet Boar Status	
	Fan False: 1 F Sot fan quantity uniformly 4 C Set fan quantity individually Setting	
	Image: Supply of Monitoring Card Image: The numbers of power supplies on eas Image: Construction state of power supply quantity individually Setting Note: First time configuration is the default for full screen, later modification will not	
	Sare	

7.2 Setting Monitoring Thresholds

Applications

Specify the alarm threshold for each monitoring item so that you can be notified of the abnormal conditions in a timely manner.

Prerequisites

- The configuration for monitoring with monitoring cards is done. For detailed operations, see 7.1 Configuring Monitoring Items.
- You have logged in to iCare.

Operating Procedure

- Step 1 Log in to iCare. See detailed operations in 5 Registering for an Account and Logging In to iCare.
- Step 2 On the home page of iCare, choose **Screen Management** > **Screen List** to access the screen list page.
- Step 3 Click a screen name. On the page that appears, select the **Fault & Alarm Details** tab to view the alarm history and notification emails of the screen.

```
Figure 7-3 Fault & alarm details
```

	NNOX ICare					II (🛛 🚱 💄 nova_huixy
Home >St	creen List >Taurus-40002	453					
Basic Info	ormation Monitorin	ig Picture Fau	lt & Alarm Details	Brightness	Real-Time Status	Individual LED Detection	Workgroups
Current	Email						Configuration
							Suggested checking items
No.	Time	Туре	Level	Locati	on	Value	Normal Range
1	2020-06-24 00:35:44	Sending Card Operating status	Fault	Sen din Operat	ig Card(sequence:1)- ting status	-	-
Total it	tem(s): 1, Page 1/1					Item	is per page: 10 🔹 🚺

Step 4 At the upper right of the page, click **Configuration** to access the threshold settings page and set thresholds as required.



Figure 7-4 Threshold settings

Typ+	Parameter	Threshold		Foult Notification	Ignore
	Working status	Rysiem default mechanilem		2	
2772772771	CNI risks	System detault meditanism		*	
Semidling Card	Ethemet port redundancy	System cetsuit mechaniem		*	settings.
	Hardware connection	Eystem detault machanism		*	
	Working status	System default mechanism		8	
Receiving Cend	Voluige		3.44 3.89 5.59	8	Settings
	Temps alure		299		Settinge
	Working status	Rystem detauti medhari km		in .	Settlags.
	Vortage	00	1.00 L.R.V. K.BV 5.54	*	tellage.
for the boot and	Smota	System detault mechanism		*	5attings
ornio ny cara	Cabinet Door	System default mechanism		*	Settings
	Fan Speed	() .	1000/w	*	Settings
	Tex Cable	Savarm default machanism		8	SetEage

iCare collects the parameters of sending cards, receiving cards and monitoring cards. If the value of a parameter is not within its normal range, the system will send an alarm notification which can be viewed on the home page.



Figure 7-5 Screen alarm information

=

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8 Monitoring Screens with Smart Modules

Smart modules allow for a smaller monitoring unit, requiring no independent monitoring cards and saving cabinet space. If smart modules are connected, complete the operations in 8.1 Configuring Monitoring Items and 8.2 Setting Monitoring Thresholds in turn to enable remote monitoring of the module temperature, voltage and flat cable communication status so that you can be notified of the abnormal conditions in a timely manner.

8.1 Configuring Monitoring Items

Applications

If smart modules are connected, you need to connect NovaLCT to the smart modules and configure the monitoring items in NovaLCT.

Applicable Products

Applicable to the A4, A4s, A5, A5s, A7, A7s, A8, A8s, A9s, A10s Plus, XC200, XC100, B4s receiving cards

Operating Procedure

- Step 1 Open NovaLCT.
- Step 2 Choose User > Advanced Synchronous System User Login/Media Player Login, then enter your user name and password according to the onscreen instructions.
 - For the synchronous system, choose **Advanced Synchronous System User Login**. The default password is "admin".
 - For the asynchronous system, choose **Media Player Login**. The default user name is "admin" and the default password is "123456".

- Step 3 Click Monitoring, or choose **Tools** > **Monitoring** from the menu bar.
- Step 4 Choose Monitoring to open the monitoring page.

Figure 8-	1 Mor	itoring
-----------	-------	---------

	nSite V2.6		Za na se				4
	00999-Sereeni					00001ng	
	Ture of Acquiring the Current	: Monitoring Da	ata 18:42,35			Horval Fault Voltage E Unknovn	ñ
51	Total Quantity of Receivin.	. в					
	Fault (alars) Information. Countity of Faulted Receiving Cards.	¹ 0	Quantity with Vol	of Receiving tage Exception	Card O		Yoni tor in Configura
	NAL III				8		
	Screen Hene						

Step 5 Click Configuration.



 $[\]sim \sim$

Step 6 On the **Hardware Settings** tab page, select **Connect to Smart Module** and set the monitoring items. After the settings are done, click **Save** to save your settings.

Monitoring items include backup power and flat cable status.

Figure 8-2 Connecting to smart module

MonitorSite - Setti	ngs	×
Refresh Period	Select Sursen to [0]#89-Sureen]	
Mardvare Settings	Commect to Moniteri	
Al arn	Connect to HUB Menitoring	
Monitoring Con	Connect to Smart Module Use 2 receiving car	,
Ensil	M Refresh Backup Fover Supply Backup Fover Supply Quantity	
Enail Log	🗖 Refresh Hunidity 🗖 Refresh Snoke 🗹 Refresh Ribbon Cable 🗖 Refresh Cabinet Dear Status	
	Refrech Fan Fan Fulse: Set fan quantity unifornly Set fan quantity individually Set fan quantity individually	
	Tefrech Forer Supply of Wonitoring Card The numbers of power supplies on each Set power supply quantity individually Setting	
	Note: First time configuration is the default for full screen, later modification will not Save	

8.2 Setting Monitoring Thresholds

Applications

Specify the alarm threshold for each monitoring item so that you can be notified of the abnormal conditions in a timely manner.

Prerequisites

- The monitoring configuration for smart modules are completed. For detailed operations, see 8.1 Configuring Monitoring Items.
- You have logged in to iCare.

Operating Procedure

- Step 1 Log in to iCare. See detailed operations in 5 Registering for an Account and Logging In to iCare.
- Step 2 On the home page of iCare, choose **Screen Management** > **Screen List** to access the screen list page.
- Step 3 Click a screen name. On the page that appears, select the **Fault & Alarm Details** tab to view the alarm history and notification emails of the screen.

Figure 8-3 Fault & alarm details

■ 🚺							🖿 🚱 💄 nova_huixy
Home >So	creen List > Taurus-40003	2453					
Basic Info	ormation Monitorir	ng Picture	Fault & Alarm Details	Brightness	Real-Time Status	Individual LED Detection	Workgroups
Current	Email						Configuration
							Suggested checking items
No.	Time	Туре	Level	Locati	on	Value	Normal Range
1	2020-06-24 00:35:44	Sending Care Operating st	d Fault atus	Sendî Opera	ng Card(sequence:1)- ting status	-	-
Total ît	tem(s): 1, Page 1/1					Iter	ns per page: 10 🔹 📘



Step 4 At the upper right of the page, click **Configuration** to access the threshold settings page and set thresholds as required.

Figure 8-4 Threshold settings

lyp+	Parameter	Threshold	Fault Notification	Ignore
	Working status	System default mechanism	2	
101111111	DNI status	System debuilt mechanism	×	
mding Card	Ethernet port redundancy	System petaulit mechanism	×	Settings.
	Hardware connection	Epitem default mechanism		
	Working status	System default mechanism	8	
ecellulog Cend	Vol tage	34/38/55/	*	Settings
	Temperature	e	*	Settinge
	Working status	Kystem cectault mechanilem	*	Settings.
	Vortage	Las AP/SA	8	wittings:
	Smoka	System detault mechaniem	*	sattings
centor englisera	Cabinet Door	Syrxem default machanism	*	Settings
	Fan Spend	100/6	*	Settings
	Bit Calify	Exclamation in constructions	2	Griffann

iCare collects the parameters of sending cards, receiving cards and smart modules. If the value of a parameter is not within its specified range, the system will send an alarm notification which can be viewed on the home page.



Figure 8-5 Screen alarm information

9 Individual LED Detection for Screens

If the driver chips of modules support individual LED detection, complete the operations in 9.1 Setting Individual LED Detection Parameters and 9.2 Setting Individual LED Detection Cycle in turn to enable remote monitoring of the number of faulty LEDs, faulty LED rate, etc. If the faulty LED rate exceeds the specified value, you will receive a repair notification in a timely manner, improving maintenance efficiency.

9.1 Setting Individual LED Detection Parameters

Applications

When you configure individual LED detection for the first time, you need to configure the parameters in NovaLCT and then specify the detection cycle in iCare so that you can get the latest result of individual LED detection in iCare according to the specified cycle.

Applicable Products

- Individual LED detection with monitoring cards: Applicable to the MRV320 and MRV560 receiving cards
- Individual LED detection with smart modules: Applicable to the A4, A4s, A5, A5s, A7, A7s, A8, A8s, A9s, A10s Plus, XC200, XC100 and B4s receiving cards

Prerequisites

- The operations in 7.1 Configuring Monitoring Items for monitoring with monitoring cards or 8.1 Configuring Monitoring Items for monitoring with smart modules are done.
- The module driver chips available for individual LED detection include MBI5037, MBI5036, MBI5030, DM13H, P2518, RFI3630, MBI5034, MBI5040, MBI5051, MBI5052, MBI5053, MBI5045, MBI5039, MBI5152.

Operating Procedure

Step 1 Open NovaLCT.

- Step 2 Choose User > Advanced Synchronous System User Login/Media Player Login, then enter your user name and password according to the onscreen instructions.
 - For the synchronous system, choose **Advanced Synchronous System User Login**. The default password is "admin".
 - For the asynchronous system, choose **Media Player Login**, select the target terminal and click **Connect System**. The default user name is "admin" and the default password is "123456".

Step 3 On the menu bar, choose **Tools** > **Led Error Detection**.



Figure 9-1 Individual LED detection

Led Error Detection					_ 🗆 🗵 🗵
- Communication Port Se	election				
Communication Port	сомяя				
Screen Topological Di	lag tam				► Zoom
					Unknown Error Normal No Monito
Led Error Detection Pa	arameters				
Threshold Voltage	Open Circuit an	6 Short Circuit Detection	Оз	œ 4	
Current Gain	Enable	Change Setting			
Bi-Calar LED Errar	Enable				
		Save Confi.	Conduct led.	Led error d	Pause Slop
					ж
					<u>></u>
Information					

Step 4 Choose a communication port.

Step 5 Configure individual LED detection parameters.

- Detection Type: Detection type supported by the driver chip
- Threshold Voltage: This is the threshold voltage of the driver chip, which can be set based on the information provided by the screen manufacturer.
- Current Gain: Choose whether to enable the current gain function. Click **Change Setting** to adjust the current gain.
- Bi-Color LED Error: When this function is enabled, individual LED detection only covers the red and green LEDs.
- Step 6 Click Conduct led error detection for full screen.
- Step 7 After the detection is done, click OK.

The number displayed in the topological diagram indicates the number of faulty LEDs. Hover the mouse over the topological diagram to view the detailed detection information.

Figure 9-2 Detection result

Bereen Topological Diagr	ram				
24076	5875	21586	aions		▲ Zoom
24575	24575	24576	24515		Error Normal No Mor
Led Error Detection Parar	meters				
Detection Type	Open Circuit ani	d Short Circuit Detection			
Threshold Voltage	O 1	O 2	O 3		
Current Gain	Enable	Change Setting			
Bi-Calar LED Errar	🗖 Enable				
		Save Confi.	Conduct led.	Led error d	Pause Stop



9.2 Setting Individual LED Detection Cycle

Applications

Set individual LED detection cycle and the rules for sending repair notifications so that users can be notified of the abnormal conditions in a timely manner.

Prerequisites

- The individual LED detection parameters are configured in NovaLCT. For detailed operations, see 9.1 Setting Individual LED Detection Parameters.
- You have logged in to iCare.

Operating Procedure

- Step 1 Log in to iCare. See detailed operations in 5 Registering for an Account and Logging In to iCare.
- Step 2 On the home page of iCare, choose **Screen Management** > **Screen List** to access the screen list page.
- Step 3 Click a screen name. On the page that appears, select the **Individual LED Detection** tab page.
- Step 4 At the upper right of the page, click **Configuration** to access the individual LED detection configuration page and set individual LED detection cycle and repair notification rule as required.

Figure 9-3 Setting individual LED detection cycle

sic Information	Monitoring Picture	Fault & Alarm Details	Brightness	Real-Time Status	Individual LED Detection	Workgroups
In dividual LE	D Detection Template	test				•
		You can create and maint	aîn templates în '	Advanced> Individual L	ED Detection Template".	
Individu	al LED Detection Cycle	Every month				Ŧ
	Detection Date	01				
	Detection Time	09:00				
	Repair Notification	Send notifications w	hen the faulty L	ED rate ≥ 5	%0	
		Submit				

Individual LED detection is done according to the specified time and the result is reported to iCare. You can access iCare on your PC and view the faulty LED rate of your screen anytime, anywhere.

10 Monitoring Ambient Brightness

If a light sensor is connected, complete the operations in 10.1 Configuring Multifunction Card and 10.2 Setting Brightness Adjustment Rules in turn to enable smart screen brightness adjustment according to ambient brightness.

Note:

In the asynchronous control system, The T3, T6, TB3, TB4, TB6 and TB8 have on-board light sensor connectors and no multifunction card is required for connecting to light sensors.

10.1 Configuring Multifunction Card

Applications

If a light sensor is connected to the multifunction card, you need to configure the multifunction card and complete peripheral light sensor configuration in NovaLCT.

Applicable Products

MFN300 multifunction card

Operating Procedure

- Step 1 Open NovaLCT.
- Step 2 Choose User > Advanced Synchronous System User Login/Media Player Login, then enter your user name and password according to the onscreen instructions.
 - For the synchronous system, choose **Advanced Synchronous System User Login**. The default password is "admin".
 - For the asynchronous system, choose **Media Player Login**, select the target terminal and click **Connect System**. The default user name is "admin" and the default password is "123456".
- Step 3 Click Multi-function Card or choose Settings > Multi-function Card from the menu bar.

Figure 10-1 multifunction card management

And Annual target and Annual Section					
Add Remove Refresh Rename	See.	E.		2	O,
1 T - 4 W2 () III - 20 -	Fower Management	Monitoring Data	Peripheral Device	Load Program	Audio Management

Step 4 Click **Add** and select the connection type of the multifunction card.

• Serial Port Connection: Select this option when the serial port of the multifunction card is connected to the USB port of the PC.



- Ethernet Port Connection: Select this option when the Ethernet port of the multifunction card is connected to that of the sending card or receiving card.
- Step 5 For serial port connection, choose a communication port and click **OK**. For Ethernet port connection, choose a communication port and set other parameters shown in Figure 10-2, and then click **OK**.

Add Multi-function Card		X
Communication Port	COM99	
Ethernet Port	1 ×	
Name		
OK	Exit	

As shown in Figure 10-3, the multifunction card is successfully added via Ethernet port connection. The following procedure takes Ethernet port connection as an example to illustrate the function.

⊡COMS9 ⊟ → Serving card-1 ⊡Pot-1 ===	Power Management Wonform Data Peripheral Device Load Program Audis Management Time of Power Management Board 2m J 0ng 2 Saturd 19 (1949) 2m J 0ng 2 Saturd 19 (1949) Beed Bet Bet Notes Stant Deir
	Contract Contract
	Switch 1 Shift Fign
	Svitch 2. Ellant Ellap
	Svetich 4
	Switch 5 Stan Stap
	Switch 7
	Dudich Q Start Start

Figure 10-3 Ethernet port connection

Step 6 Select Peripheral Device and add light sensors as required. Then click Save.

Figure 10-4 Peripheral device

Add Remarke Refresh Rename	Forwar Management Mont	click 'Save' b ation	Load Program A	Constant of the second
	Peripheral device 1 Peripheral device 2 Peripheral device 3 Peripheral device 5 Peripheral device 8	No external device Vo external device Vo external device Vo external device Vo external device Vo external device Vo external device Vo external device V	Refe	sh Sava



10.2 Setting Brightness Adjustment Rules

Applications

Adjust the brightness manually or set rules for smart brightness adjustment.

Prerequisites

- You have logged in to iCare.
- The light sensor is connected.

If the light sensor is connected to a multifunction card, you need to complete the multifunction card configuration. See detailed operations in 10.1 Configuring Multifunction Card.

Operating Procedure

- Step 1 Log in to iCare. See detailed operations in 5 Registering for an Account and Logging In to iCare.
- Step 2 On the home page of iCare, choose **Screen Management** > **Screen List** to access the screen list page.
- Step 3 Click a screen name. On the page that appears, select the **Brightness** tab to view screen brightness, ambient brightness, light sensor status, etc.

Figure 10-5 Brightness tab page

Basic Information M	onitoring Picture Error Ala	rm Details Brightne	ss Real Time Status	Individual LED Detection
current log ema	۱Ï			Configuration
Display Brightness	102(40.0%)			
Environment Brightness	200 Lux			
Light Sensor Status	Nomal			
	Location	Value(Lux)		
	Sender(sequence:00)- PortOfSender(sequence:01)- LightSensor(sequence:00)	200		
Template name	Customize			

- Step 4 At the upper right of the page, click **Configuration** to access the brightness configuration page and set rules for brightness adjustment and brightness thresholds as required.
 - Automatic brightness adjustment: The screen brightness is the specified brightness or changes automatically according to the ambient brightness within the specified time range.

Ambient brightness adjustment: The screen brightness changes according to the ambient brightness mapping table. The ambient brightness mapping table shows the relationship between screen brightness and ambient brightness.

• Brightness threshold monitoring: Set the normal screen brightness range. If the screen brightness goes out of the normal range you set, iCare will send you a fault notification.

Figure 10-6 Brightness adjustment

✓ Automatic Brightness Adjustment Table

Time	Туре	Brightness (%)	Enable	Operation
05:00	Custom Brightness	29.1	×	πG
00:80	Custom Brightness	47.9	×	ñ C
+ New				

♥ Ambient Brightness Mapping Table

Display brightness when reading ambient brightness fails

The display brightness will be adjusted to this value when reading ambient brightness fails,

23.6%

Ambient Brightness(Lux)	Display Brightness(%)	Operation	
1	1.0	Delete	
11	7.9	Delete	
21	14.8	Delete	
31	21.8	Delete	

ument Montito	eng.					
		Monitoring Log 🛛 III Record screen original esclavory 10 + minutogr				
Brigh weis Monits	irina Threshold Table					
Dart time(h)	End Time(h)	Brightness Thresholds		Contract	Notity Faults	Operation
200	1100		72 (23.2%)	255 (110.0%)		8.0



Monitoring Pictures

If cameras are connected, complete 11.1 Configuring Monitoring Pictures and 11.2 Configuring Cameras in turn to enable remote monitoring of the live pictures on the screen, and you can perform smart display detection for the pictures taken by the camera.

11.1 Configuring Monitoring Pictures

Applications

When you associate the monitoring pictures for the first time, you need to enable the monitoring picture function, obtain the storage location for snapshots to configure the relationship between the camera and screen.

Prerequisites

You have logged in to iCare.

Operating Procedure

- Step 1 Log in to iCare. See detailed operations in 5 Registering for an Account and Logging In to iCare.
- Step 2 On the home page of iCare, choose **Screen Management** > Screen List to access the screen list page.
- Step 3 Click a screen name. On the page that appears, select the Monitoring Picture tab.
- Step 4 At the upper right of the page, click **Configuration** to access the monitoring picture configuration page.

mann	Month Ing Forture Fault & Marm Details 8	Ignitest Del-One-Suite, Indulated	IICentral Munificitie	
UDODI GANNA	LARE FOR BALINES OFFIC			
	Carneta Name	Statue	Databile	Configuration
	Linux 1			Hard Down I gam?
	Cardenia			How E and Report
	(fermal)		(R)	How to our Own?
	Carryoned			Here to over Egend
loansp Satting mart Display Di	taction Contiguistics			
in tarber all 1			unterned which interfection or plant	The policy of the and the and the apply of the sector of the sector.

- Step 5 Under the **Enable** column, select the corresponding camera.
- Step 6 On the right of the target camera, click How to configure? Then follow the instructions to configure the camera.

For the detailed operations to configure a camera, see 11.2 Configuring Cameras.

Figure 11-2 Instructions for configuring a camera

Camera Time Synchronization yndheniza the camera time with your computer tank.	Copture Settings 1. Existie the scheduled server capture Vinction. 2. Configure this capture interval. 3. Configure the pitture suitodifing schedule.	FTP Settings Server editors User name Persward Service ditorsy:
	4	-

Step 7 After the camera parameters are configured, click View Result to view the camera configuration result.



After the camera configuration is done, access iCare on your PC according to the specified picture uploading schedule to view the latest monitoring picture, monitoring picture history, smart display detection results anytime, anywhere, as shown in Figure 11-3.





11.2 Configuring Cameras

Applications

Configure the relationship between the screen and cameras and specify the snapshot capture interval and storage location.

Applicable Products

Applicable to Hikvision DS-2DE4223IW-DE (B) and DS-2CD2626FWDV2-IS (2.7-12mm) cameras and Dahua DH-IPC-HFW2433DM-LED camera

Prerequisites

Before you configure the cameras, complete the following:

- Connect your PC and cameras to the same network segment.
- Download and install an online device search tool on your PC. For example, SADP is a tool that detects Hikvision cameras on the local area network. Download SADP from Hikvision's official website (https://www.hikvision.com/en/). Figure 11-4 shows where the SADP tool is on the website.

HIKVISION	HOME PRODUCTS VMS PRESS SUPPORT PARTNERS CORPORATE	
Homer-Supports-Downvasd>Taols	Cur team of professionals are standing by to assist you Our team of professionals are standing by to assist you Streactin Product Manager Mindeal Reactor	
Support 2		
Notice Download	Earlinear Cascaladi V2.00.3 Dek Space Opticiator V4.00.2	
Tools	SAOP VEDD 2	
Client Schwere 3	MFPlugns V5.2.1.2 VSPlayer V7.2.0	
Leafet Ragonal Wateries	Fermat Converter V4.8.1	
Firmware Knowledge Base	VSRayer for Max 05 Vsrb Funn for Max 05 VSR 5.43	
FAG	DSF films V6.1.2.2	
Video	Hisvetan DVR Menu Simulator V3.2.0	
Training	▶ 540P V2 2 3 6	
aeura ny Center	PC Celculator (V1 0)	
Product Selector		

Figure 11-4 Downloading an online device search tool

Operating Procedure

The configuration pages of different IP cameras vary, but the configuration procedures are the same. Hikvision cameras are used as an example to describe the following procedure.

Network Parameter Configuration

Step 1 Open the installed online device search tool and click Refresh on the home page.

2		SADP			14
Q Online Devices	🔞 Help				
Total number of onl	line devices	Save as Exc	ei 🕼 Refresh	Modity Network Parameters	
Device Type	IPv4 Address Security	Pert Software Version IP-4	Galeway HTT	IP Address: Port Subnet Mask: IPv4 Gateway: IPv6 Address: IPv6 Gateway: IPv6 Gateway: IPv6 Freits Length: HTTP Port: Device Serial No.; Enable DHCP Password Confirm Password: Enable DHCP in Batch Password Password Password	OK Eippor Impor

Figure 11-5 Home page of the online search tool

Step 2 Click to select the camera to be configured and configure the network parameters for the camera on the right of the page. No admin password is required by default. If you want to set a password, enter your password in the **Password** field box at the lower right of the page and then click **Save**.

Figure 11-6 Network parameter configuration





Note:

The configuration procedure is similar to the procedure of setting an IP address on a PC. You can set a static IP address or choose to obtain an IP address automatically. When you set a static IP address, the IP addresses of the camera and PC must be on the same network segment and cannot conflict. Make sure that the PC has access to the public network.

Syncing Camera Time

Step 3 Enter the IP address of the camera into the address bar of a browser (Internet Explorer 11 recommended) and then press the **Enter** key on the keyboard (or double click the IP address of a corresponding device in the device list shown in Figure 11-6) to access the device login page. The default user name is "admin" and the password is empty.





Step 4 After logging in to a camera, you are prompted to download a plug-in.



- Step 5 Click to download the plug-in, install it and then refresh the page. Select **All sites operation** from the prompt that appears.
- Step 6 On the page that appears, choose Configuration > System > System Settings > Time Settings, then select Sync. with computer time and click OK.

Figure	11-8	Setting	time
Figure	11-0	Seung	une

D Loca	al	Easic Information	ime Settings RS232 DS	I	
Syst	em	Time Zone	(GMT+08:00) Beljing, U	rumqi, Singapore 💙	
Syst	em Settings	2 NTP			
Main	tenance				
Secu	irity	Server Address	time.windows.com		
User	Management	NTP Port	123		
Netw	vark.	Interval	1440	min	
Vide	olAudio		Test		
imag	ge	Manual Time Svn	ç.		
Ever	nt	Manual Time Synd			
🖺 Stora	age	Device Time	2016-04-06T10:40:41		
		Set Time	2016-04-06T10:42:58	📆 🔽 Sync. with computer time	4
		🖹 Save	5		

Image Display Settings

Step 7 Choose Configuration > Image > OSD Settings, then set the parameters as required and click Save, as shown in Figure 11-9.

Figure 11-9 OSD settings

	Live View	Playback	Picture	Configuration				
🖵 Lotal	Display Settings	OSD Settings	Privacy Mask	0				1
System					Display Name			
Network					Display Week			
Video(Audio					Camera Name	123456		4
La Image					Time Format	24-hour	~	100
Event					Date Format		\$	
Storage	Display Mode	Sine	5	Y]

- Step 8 Configure snapshot capture interval, five minutes or longer are recommended (It will occupy bandwidth and affect transmission if the interval is too short).
- Step 9 Set the schedule to upload snapshots. Click Edit to set the start time and end time of taking snapshots. Click Save after your settings are done. As shown in Figure 11-10, the blue bar denotes the time of taking snapshots (this figure shows that snapshots will be taken and uploaded during the specified time every day).

Figure 11-10 Schedule

<u> </u>	STATISTICS	i iay	Dack		Picture		Config	uration		1				
🖵 Local	Record Schedul	Cap	dure	3										
System	Capture Sci	nedule)	Capture	Parame	ters									
D Network	Continuo	15 ¥ ¥	(Delete	tin 1	Delete All									
Video/Audio	0 Mon	2	4	6	8	10	12	14	18	18	20	22	24	Continuous
Event 2	o Tue	2	4	6	8	10	12	14	16	10	20	22	24	
Storage Schedule Settings	0 Wed	, P	4	ð	ę	10	12	14	16	16	20	22	24	
Storage Management	Thu 0	2	4	б	8	10	12	14	15	18	20	22	24	
	Fri	2	- 14	6	8	10	12	14	16	16	20	22	24	
	Sat 0	2	4	5	8	10	12	14	16	18	20	22	24	
	Sun	2	4	ð	8	10	12	14	15	18	20	22	24	
	B	Save												

Step 10 Click Save.

DNS Configuration

Step 11 Choose Configuration > Network > Advanced Settings > FTP.

Figure 11-11 FTP upload parameter settings

Server Address	v0.ftp.upyun.com	
User Name	xuzhurong/novatest-003	user name and password
Password		provided by system
Confirm		
Directory Structure	Save in the child directory	T
Parent Directory	Custom	140117F000000748-00_30315300C
Child Directory	Use Camera Name	•
Picture Filing Interval	OFF	 Day(s) Please fill in the storage directory provided by system
Picture Name	Default	•
Picture Name	Upload Picture En	able this option
	Test	

Step 12 Enter the FTP information of the corresponding LED display.

- Parent Directory: Select **Custom**, enter the snapshot storage path.
- Child Directory: Select **Custom**. This directory can contain uppercase letters and numbers only and cannot be longer than 8 characters. Once the child directory is specified, it cannot be changed, otherwise, it will affect the display of images.
- Upload Picture: Check the box.

Step 13 Click Test to start testing and then click OK when the prompt box saying "Testing succeeded." appears.

Figure 11-12 Testing succeeded



Step 14 Click Save at the lower left.

NOVASTARTECH



12 Viewing Monitoring Information

Applications

Introduce the monitoring ranges of iCare depending on different hardware configurations.

Prerequisites

- You have logged in to iCare.
- Hardware connection is done.
- Hardware configuration is done in NovaLCT and monitoring configuration is done in iCare.

Operating Procedure

- Step 1 Log in to iCare. See the detailed operations in 5 Registering for an Account and Logging In to iCare.
- Step 2 On the home page, click a screen on the left to view its real-time monitoring information on the window that appears on the right of the page.

The real-time monitoring information of a screen includes the following:

- Monitoring picture: Displays the latest picture taken by the camera.
- Screen information: Displays the abnormal information of the monitoring items such as sending card, receiving card, monitoring card and smart module.
- Player: Displays system resource usage of the player.

Figure 12-1 Real-time monitoring information



Step 3 At the upper right of the window, click **More** to view the basic information, monitoring picture, fault & alarm details, brightness, real-time status, individual LED detection, etc of the current screen. Supported monitoring items are shown in Table 12-1.

Screen Details	Item	Hardware Requirements	
	Screen name	/	
Pagia information	Screen time zone	1	
Dasic mornation	Screen resolution	/	
	Device type	1	
	Latest monitoring picture		
Monitoring picture	Monitoring picture history	IP camera	
	Smart display detection history		

Table 12-1 Monitoring details



Fault & alarm details	Sending card working status	/
	DVI status	/
	Receiving card Ethernet port redundancy status	/
	Sending card connection status	/
	Receiving card working status	/
	Receiving card voltage	/
	Receiving card temperature	1
	Monitoring card working status	 Monitoring card: MON300 Receiving card: MRV320, MRV560
	Monitoring card voltage	
	Smoke alarm	
	Cabinet door	
	Fan speed	
	Flat cable status	
	Smart module working status	
	Smart module voltage	 Smart module Receiving card: A4, A4s, A5, A5s, A7, A7s, A8, A8s, A9s, A10s Plus, XC200, XC100, B4s
	Smart module temperature	
	Flat cable status	
Brightness	Screen brightness	/
	Ambient brightness	Light sensorMultifunction card: MFN300
	Light sensor status	
Real-time status	Online/Offline time	/
	Control system temperature	/
	Player resource usage	/
Individual LED detection	Faulty LED rate	 Monitoring card or smart module Module driver chip available for individual LED detection

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Official website www.novastar.tech

Technical support support@novastar.tech