SNMP User Manual

V1.0

March, 2025

Hisense Commercial Display R&D

Version & Revision History

Version	Description	Date
V1.0	The initial release	2025-3

Contents

SNMP Overview

1. Protocol Definition

SNMP (Simple Network Management Protocol**)** is an application-layer protocol standardized by the IETF (Internet Engineering Task Force) for managing and monitoring network devices e.g.,routers,switches,servers.

Key Characteristics:

- **Standardized**: Defined in RFC 1157 v1, RFC 3416 v2c, RFC 3410 v3
- **Lightweight**: Minimal resource consumption on managed devices
- **Hierarchical Data Model**: Uses OID (*Object Identifier*) trees to organize data

2. Architecture Components

Component	Role & Functionality	Remark
Manager	Initiates requests to collect/configure data	End user usually use MIB Browser to test and it can be download from the link: https://ireasoning.com/download.shtml
Agent	Responds to manager requests; Sends traps	The large-screen device is the Agent. Can be opened through “Menu-Remote Control-SNMP”
MIB	Database defining managed objects structure	 HisMIBV3.0.my

3. Core Operations

Operation	Direction	Use Case
GET	Manager → Agent	Request single OID value
SET	Manager → Agent	Modify device config

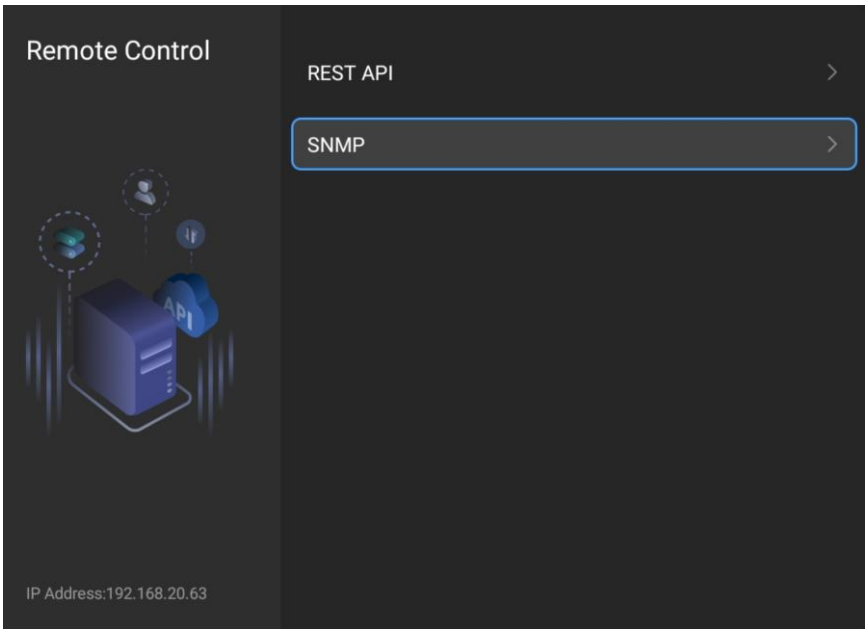
Test Environment Setup

1. Power on the large screen device

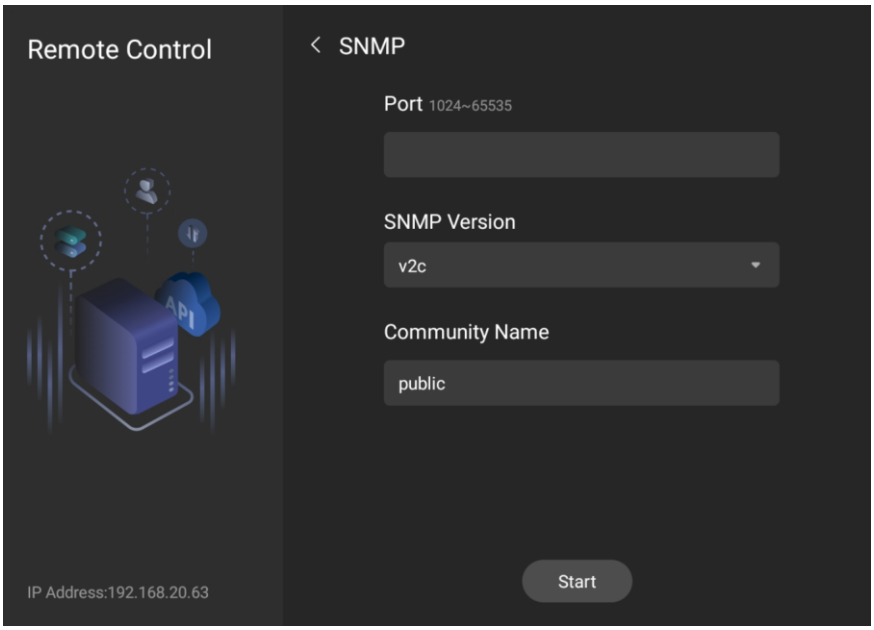
Power on the large screen device and make sure the network works well.

2. Start SNMP Service

Navigate to **Menu → Remote Control** on the device interface.



Configure the parameters, and start SNMP service.



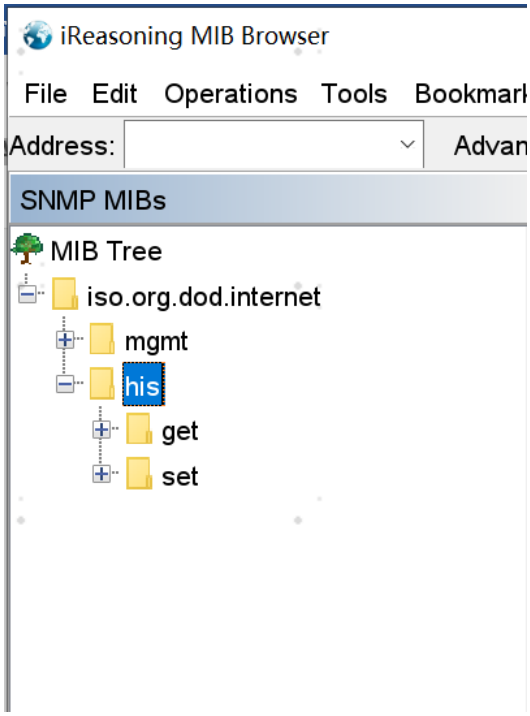
3. Download and install the MIB Browser software on your PC

You can download it from the link: https://ireasoning.com/download.shtml. Or use your trusted MIB

browser software.

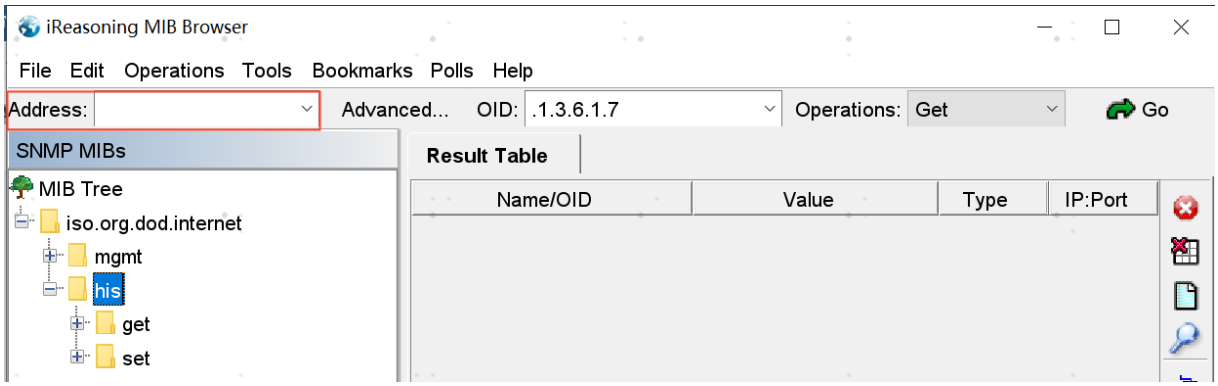
4. Import .my files

- Launch the software, navigate to File → Load MIBs, and import the .my file
- Upon successful import, the MIB Tree will be displayed as follows:



5. Configure IP Address

Input the IP address of the large-screen device here.

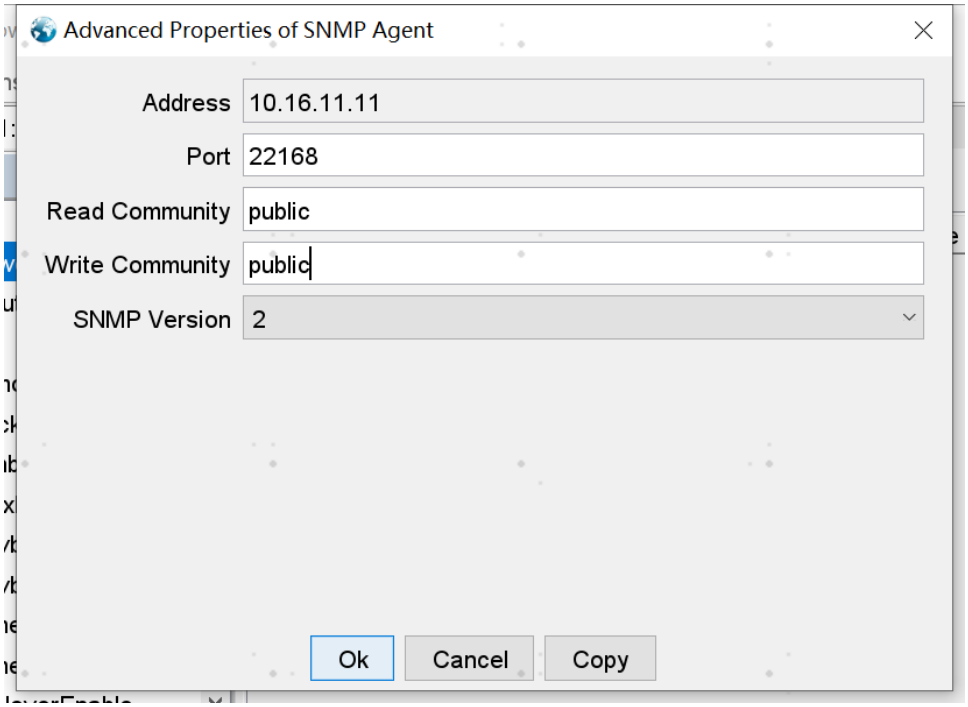


6. Configure SNMP Parameters

Click **Advanced** to configure:

- **Port**: Set the communication port number. It must be the same with the device's port.
- **Read Community**: Define read-access community string. The default is public. Users can customize it on the device.

- **Write Community**: Define write-access community string. The default is public. Users can customize.
- **SNMP Version**: Select V2 (Currently the only supported version)
- Click **OK** to save the configuration.



7. Device Configuration and Status Management

After completing the SNMP setup, you can:

- Modify device-wide configurations by sending OID commands.
- Query real-time device status using specific OIDs.

OID Commands

GET

Get the screen state

name	OID	Description of the return value	remark
power	1.3.6.1.7.1.1	ScreenOn or ScreenOff	

Query the signal source

name	OID	Description of the return value	remark
input	1.3.6.1.7.1.2	Returns the current source name, e.g. HDMI1, HDMI2, HMID3, Android	

Signal status inquiry

name	OID	Description of the return value	remark
inputsignal	1.3.6.1.7.1.3	When there is no signal, it returns: No Signal Returns resolution when there is a signal, e.g. 1920x1080 When the Android channel is returned: Android	

Fan speed inquiry

name	OID	Description of the return value	remark
fanspeed	1.3.6.1.7.1.4	Returns current fan speed	

Model inquiry

name	OID	Description of the return value	remark
model	1.3.6.1.7.1.5	Returns the model information of the device	

Query the software version

name	OID	Description of the return value	remark
firmware	1.3.6.1.7.1.6	Returns the software version number	

Query SN

name	OID	Description of the return value	remark
serialnumber	1.3.6.1.7.1.7	Return the SN number of the machine	

Query the usage duration

name	OID	Description of the return value	remark
uptime	1.3.6.1.7.1.8	The power on duration of the device	

Query the temperature

name	OID	Description of the return value	remark
temperature	1.3.6.1.7.1.9	Current device temperature, in degrees Celsius	

Backlight queries

name	OID	Description of the return value	remark
backlight	1.3.6.1.7.1.10	Current backlight value	

Query the status of the remote lock

name	OID	Description of the return value	remark
remotemode	1.3.6.1.7.1.11	OFF: The remote control lock is closed ON(only Power available) : The remote control lock is on. Remote can’t control the device except Power button. ON(fully shielded): The remote control lock is on.	

Query the brightness

name	OID	Description of the return value	remark
brightnesssensor	1.3.6.1.7.1.12	Current ambient light	

Minimal backlight query

name	OID	Description of the return value	remark
minbacklight	1.3.6.1.7.1.13	Minimum backlight value	

Maximum backlight query

name	OID	Description of the return value	remark
maxbacklight	1.3.6.1.7.1.14	Maximum backlight value	

Get a wired Mac

name	OID	Description of the return value	remark
getMAC	1.3.6.1.7.1.17	The MAC address of the wired network	System Settings - Network - Wired Network Check

Get the timer to turn on and off the time

name	OID	Description of the return value	remark
getTimerOn	1.3.6.1.7.1.18	Returns the scheduled boot data	Scheduled boot data
getTimerOff	1.3.6.1.7.1.19	Returns the scheduled shutdown data	Scheduled shutdown data

Taking the timed boot data as the example, the boot timer 1, boot timer 2, boot timer 3, the data returned is as follows (each data is separated by a comma):

1 Off --:--,2 Off --:--,3 Off --:--

The format of each data record is as follows, for example:

1 Off --:--

The data content is divided into 3 segments:

Segmented content	Description of the return value	remark
1	1: indicates timer 1 2: indicates timer 2 3: indicates timer 3	It is represented as the first few timers, and each Timeron and Timeroff has three timers
Off	Off: Off Once: Once EveryDay: Every day MondayToFriday: Monday to Friday MondayToSaturday: Monday to Saturday SaturdayToSunday: Saturday to Sunday Manual: Manual	Timer type When the type is Manual, the return format of the second paragraph is as follows: Manual-0,1,2 The 0,1,2 after "-" indicates that Sunday, Monday, and Tuesday that are selected The corresponding values of the week are as follows: 0: Sunday 1: Monday 2: Tuesday 3: Wednesday 4: Thursday 5: Friday 6: Saturday

--:--	Hours: Minutes	Indicates the time of the timer, when the timer type is off, it is --:-- , when it is on, it is the specific time, for example, 9:00 is 09:00

Get the signal backup switch

name	OID	Description of the return value	remark
getFailoverEnable	1.3.6.1.7.1.20	ON: Signal backup is enabled OFF: Signal backup is disabled	

Get the current primary channel

name	OID	Description of the return value	remark
getMasterSource	1.3.6.1.7.1.21	Returns the corresponding channel name	

Get the current backup channel

name	OID	Description of the return value	remark
getSlaveSource	1.3.6.1.7.1.22	Returns the corresponding channel name, app name, or playlist name	

Get the current state of over-temperature protection

name	OID	Description of the return value	remark
getTempProtection	1.3.6.1.7.1.23	Get over temperature protection current state: 0: Not started 1: Level 1 2: Level 2 3: Level 3 4: Level 4	

Get standby status for no-signal operation

name	OID	Description of the return value	remark
getNoSignalStandby	1.3.6.1.7.1.24	Get no signal standby status: Close, 30s, 1minute, 5minute, 10minute, 15minute, 30minute, 60minute	

Get no operation standby status

name	OID	Description of the return value	remark
getNoOperationStandby	1.3.6.1.7.1.25	Get no operation standby status: Close, 10minute, 15minute, 30minute, 60minute, 90minute,120minute	

Ambient light query with a brightness of 0

name	OID	Description of the return value	remark
getBrightnesssensor_0	1.3.6.1.7.1.26	Returns the corresponding ambient light	

Ambient light query with a brightness of 10

name	OID	Description of the return value	remark
getBrightnesssensor_10	1.3.6.1.7.1.27	Returns the corresponding ambient light	

Ambient light query with a brightness of 20

name	OID	Description of the return value	remark
getBrightnesssensor_20	1.3.6.1.7.1.28	Returns the corresponding ambient light	

Ambient light query with a brightness of 30

name	OID	Description of the return value	remark
getBrightnesssensor_30	1.3.6.1.7.1.29	Returns the corresponding ambient light	

Ambient light query with a brightness of 40

name	OID	Description of the return value	remark
getBrightnesssensor_40	1.3.6.1.7.1.30	Returns the corresponding ambient light	

Ambient light query with a brightness of 50

name	OID	Description of the return value	remark
getBrightnesssensor_50	1.3.6.1.7.1.31	Returns the corresponding ambient light	

Ambient light query with a brightness of 60

name	OID	Description of the return value	remark
getBrightnesssensor_60	1.3.6.1.7.1.32	Returns the corresponding ambient light	

Ambient light query with a brightness of 70

name	OID	Description of the return value	remark
getBrightnesssensor_70	1.3.6.1.7.1.33	Returns the corresponding ambient light	

Ambient light query with a brightness of 80

name	OID	Description of the return value	remark
getBrightnesssensor_80	1.3.6.1.7.1.34	Returns the corresponding ambient light	

Ambient light query with a brightness of 90

name	OID	Description of the return value	remark
getBrightnesssensor_90	1.3.6.1.7.1.35	Returns the corresponding ambient light	

Ambient light query with a brightness of 100

name	OID	Description of the return value	remark
getBrightnesssensor_100	1.3.6.1.7.1.36	Returns the corresponding ambient light	

SET

Set the power-on status

name	OID	Parameter description	remark
setpower	1.3.6.1.7.2.1	0 or 1	0:ScreenOn 1:Screen Off

Source switching

name	OID	Parameter description	remark
setinput	1.3.6.1.7.2.2	9 or 10 or 11or 21	9:HDMI1 10:HDMI2 11:HDMI3 21:Android

Set the remote lock switch

name	OID	Parameter description	remark
setremote	1.3.6.1.7.2.4	0 or 1 or 2	0:OFF 1:ON(only Power available) 2:ON(fully shielded)

Set the backlight

name	OID	Parameter description	remark
setbacklight	1.3.6.1.7.2.5	Example: 1-100 A value of 1 indicates the backlight mode, which can be as follows: 1: Automatic 0: Manual The value of 100 indicates the set backlight value, and the value range is an integer value of 0~100	

Set the minimum backlight

name	OID	Parameter description	remark
setminbacklight	1.3.6.1.7.2.6	0~49	An integer value of 0~49

Set the maximum backlight

name	OID	Parameter description	remark
setmaxbacklight	1.3.6.1.7.2.7	50~100	An integer value of 50~100

Set the timer to turn on and off

name	OID	Parameter description	remark
setTimerOn	1.3.6.1.7.2.10	Refer to the detailed instructions below	Turn on at a timed time
setTimerOff	1.3.6.1.7.2.11	Refer to the detailed instructions below	Timed shutdown

For example, set the boot timer 1 to 9:00 every day

1 EveryDay 09:00

The data content is divided into 3 segments:

Segmented content	Description of the return value	remark
1	1: indicates that timer 1 is set 2: indicates that timer 2 is set 3: indicates that the timer 3 is set	The 1/2/3 indicates which timer is set, current power on and off each has three timers
Off	Off: Off Once: Once EveryDay: Every day MondayToFriday: Monday to Friday MondayToSaturday: Monday to Saturday SaturdayToSunday: Saturday to Sunday Manual: Manual	Timer type When the type is Manual, the data format of the second paragraph is as follows: Manual-0,1,2 The 0,1,2 after "-" indicates that Sunday, Monday, and Tuesday are selected The corresponding values of the week are as follows: 0: Sunday 1: Monday 2: Tuesday 3: Wednesday 4: Thursday 5: Friday 6: Saturday For example, set the boot timer 2 as: Manual Sunday, Monday, Tuesday 10:00 boot, command as follows: 2 Manual-0,1,2 10:00

09:00	Hours: Minutes	Indicates the time of the timer, such as 9:00 o'clock

Set the signal backup switch

name	OID	Parameter description	remark
setFailoverEnable	1.3.6.1.7.2.12	0 or 1	0: Off 1: On

Set up the Primary channel

name	OID	Parameter description	remark
setMasterSource	1.3.6.1.7.2.13	0 or 1 or 2	0:HDMI1 1:HDMI2 2:HDMI3

Set the backup channel

name	OID	Parameter description	remark
setSlaveSource	1.3.6.1.7.2.14	0:HDMI1 1:HDMI2 2:HDMI3 3:App 4: Playlists	If the slave channel is set to HDMI1, HDMI2, or HDMI3, the corresponding values are 0, 1, and 2 If the slave channel is set to App, the value of the parameter is 3-com.xbh.setting, where com.xbh.setting is the package name of the corresponding app

			When the slave channel is set to a playlist, the value of the parameter is as follows: 4-1, where 1 is the playlist ID

Set no signal standby

name	OID	Parameter description	remark
setNoSignalStandby	1.3.6.1.7.2.15	0，1，2，3，4，5，6，7	The following table describes the value and corresponding meanings of the parameter: 0：Close 1：30s 2：1minute 3：5minute 4：10minute 5：15minute 6：30minute 7： 60minute

Set no operation standby

name	OID	Parameter description	remark
setNoOperationStandby	1.3.6.1.7.2.16	0，1，2，3，4，5，6	The following table describes the values and meanings of the parameters: 0：Close 1：10minute 2：15minute 3：30minute 4：60minute 5：90minute 6：120minute

Ambient light setting with a brightness of 0

name	OID	Parameter description	remark
setBrightnessssensor_0	1.3.6.1.7.2.18	Ambient light, integer value	

Ambient light query with a brightness of 10

name	OID	Parameter description	remark
setBrightnesssensor_10	1.3.6.1.7.2.19	Ambient light, integer value	

Ambient light setting of brightness 20

name	OID	Parameter description	remark
setBrightnesssensor_20	1.3.6.1.7.2.20	Ambient light, integer value	

Ambient light setting of brightness 30

name	OID	Parameter description	remark
setBrightnesssensor_30	1.3.6.1.7.2.21	Ambient light, integer value	

Ambient light query with a brightness of 40

name	OID	Parameter description	remark
setBrightnesssensor_40	1.3.6.1.7.2.22	Ambient light, integer value	

Ambient light setting of brightness 50

name	OID	Parameter description	remark
setBrightnesssensor_50	1.3.6.1.7.2.23	Ambient light, integer value	

Ambient light query with a brightness of 60

name	OID	Parameter description	remark
setBrightnesssensor_60	1.3.6.1.7.2.24	Ambient light, integer value	

Ambient light setting of brightness 70

name	OID	Parameter description	remark
setBrightnesssensor_70	1.3.6.1.7.2.25	Ambient light, integer value	

Ambient light setting of brightness 80

name	OID	Description of the return value	remark
setBrightnesssensor_80	1.3.6.1.7.2.26	Returns the corresponding ambient light	

Ambient light setting at brightness 90

name	OID	Parameter description	remark
setBrightnesssensor_90	1.3.6.1.7.2.27	Ambient light, integer value	

Ambient light setting at brightness 100

name	OID	Parameter description	remark
setBrightnesssensor_100	1.3.6.1.7.2.28	Ambient light, integer value	