



SKD7110 User Manual

(8 HDMI to IP Encoder)



Dingshengwei Electronics Co., Ltd.

The final interpretation right of this document belongs to our company

Preface

Thank you for choosing our product.

This manual details the performance, installation and operation of the product. Please read this manual before use.

Our company, Ding Sheng Wei Electronics Co., Ltd., does not assume any responsibility for any losses caused by violation of safety regulations.

1. Incoming inspection

- (1) Open the equipment box and check the contents against the product packing list.
- (2) If the packing list does not match the actual item, please contact us.

2. Read the instruction manual

Please read the instructions and follow all instructions.

(1) Power

The power supply used with this device must comply with the indicated power supply and be grounded. When not using the machine for a long time, please unplug the power cord.

(2) Working environment

Keep the equipment working in a ventilated and dry place. Avoid excessive heat, moisture, dust and heat.

(3) Equipment cleaning

Before cleaning the device, unplug the power cord. Do not use liquid or spray cleaners.

(4) Power cable protection

Pay special attention to the safety protection of plugs, sockets and power cords

(5) Overload

Be careful not to overload the power supply at the outlet. Use caution when using extension cords or integrated sockets as this may result in electric shock and fire.

(6) Lightning

To prevent damage caused by lightning, please use this device in a lightning protection device, which can effectively prevent damage caused by lightning or power grid fluctuations.

(7) Foreign matter or liquid intrusion

Do not insert foreign objects into the machine or spill any liquid into the machine.

(8) Attachments

Do not use accessories not recommended by the manufacturer, as this may cause danger

(9) Transportation

When transporting the machine, the original packaging of the product should be used to avoid damage. Do not place heavy objects on the machine or step on it. Otherwise, personal injury may occur and the machine may be damaged.

(10) Maintenance

Do not open the box and repair by yourself to avoid personal injury or serious damage to the machine.

During the warranty period, if the product is damaged due to natural causes and is disassembled without authorization, free warranty will not be provided.

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1. Product description

The SKD7110 series is a platform product for centralized processing of small digital or IPTV front-end services. The installation method is flexible and can be installed in cabinets, wall-mounted, and desktop. Device parameter configuration can be operated through local or cloud network. The WEB page is beautiful and easy to understand, and the operation is simple. It has intelligent functions such as parameter batch import, export and exception reminder. It is a device that highly integrated, cost-effective IPTV front-end signal comprehensive processing equipment.

1.1. Product picture

Front panel



Rear panel



1.2. SKD7110 parameter

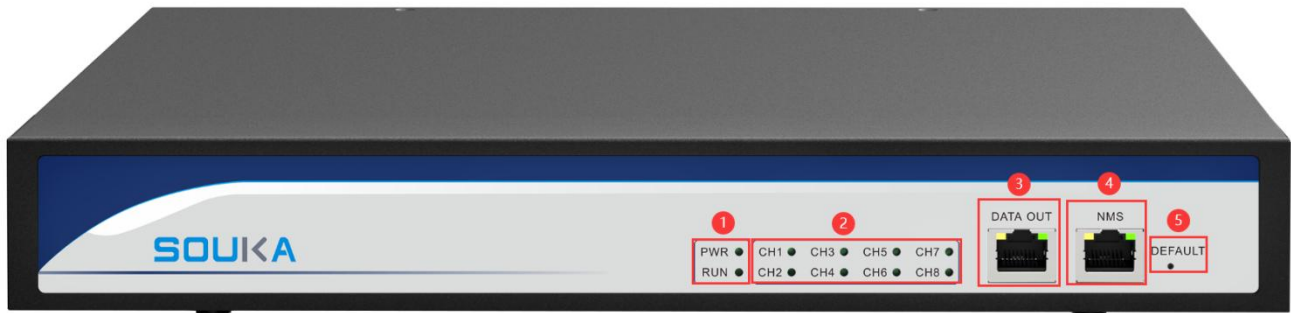
SKD7100N Host performance parameters		
Size	318(L)*260(W)*44(H)mm	
Installation form	1U19inch chassis, Wall hanging, desktop	
Working temperature, humidity	-10°C-45°C、40%-70%	
Storage temperature and humidity	-40°C-70°C、40%-95%	
Power parameters	Supply voltage	DC12V
	Maximum current	7000mA
Conector parameter of input module	Total number of slots	2
	Each slot can support modules	4 HD encoding module
IP output parameter	IP output conector	1 Gigabit RJ45 network port
	Output format	Supports UDP/RTP protocol output, supports SPTS/MPTS stream processing, and supports 512 IP addresses

1.3. Features of products

- Card design, 2 cards with 8 HD input
- Support H.264 video encoding input (optional)
- Support UDP/RTPprotocol input, support SPTS steam processing
- 1 Gigabit port and 1 management port
- Operated through PC (WEB), the device supports cloud management

2. Structure diagram

Front panel



Number	Function	
1	PER	This indicator light lights up when the device is powered on
	RUN	This indicator light lights up when the device is running
2	CH1	When the No. 1 port receive the signal, the indicator light lights up.
	CH2	When the No. 2 port receive the signal, the indicator light lights up.
	CH3	When the No. 3 port receive the signal, the indicator light lights up.
	CH4	When the No. 4 port receive the signal, the indicator light lights up.
	CH5	When the No. 5 port receive the signal, the indicator light lights up.
	CH6	When the No. 6 port receive the signal, the indicator light lights up.
	CH7	When the No. 7 port receive the signal, the indicator light lights up.
	CH8	When the No. 8 port receive the signal, the indicator light lights up.
3	DATA OUT	Gigabit output network port
4	NMS	Management
5	DUFAULT	Restore factory settings button. If you need to restore factory settings, you need to press and hold for 15 seconds.

Rear panel



Number	Function	
1	CH1	Signal input conector
	CH2	Signal input conector
	CH3	Signal input conector
	CH4	Signal input conector
2	CH1	Signal input conector
	CH2	Signal input conector
	CH3	Signal input conector
	CH4	Signal input conector
3	Switch	
4	Ground	
5	Power inlet	

3. Installation guide

3.1. Installation preparation

When installing the device, follow these steps:

- Check for possible loss or damage of equipment during transportation;
- Prepare a suitable environment for installation;
- Install the required input and output cables;

Each detail of the equipment installation is described in the remainder of this chapter, using the rear panel diagram as a reference for specific locations.

3.2. Equipment installation process

Step 1:Unpacking and inspecting goods

Step 2:Fixed equipment

Step 3:Connect power and ground wires

Step 4:Connect signal cable

Step 5:Connect signal cable

Step 6:Set device parameters

Step 7:Set device parameters

Step 8:Equipment operation

3.3. Environmental conditions requirements

Project	Requirement
Control room space	When installing multiple rows of cabinets, the distance between the front and rear doors of the cabinet is 1.2~1.5m and the distance from the wall is 0.8m.
Control room floor	Non-conductive and dust-free. The volume resistivity of the ground anti-static material is $1 \times 10^7 \sim 1 \times 10^{10}$, and the grounding current limiting resistance is 1M. The floor load-bearing should be greater than 450Kg/m ² .
Ambient temperature	For long-term work in an environment of 5~40°C, and for short-term work in an environment of 0~45°C, it is best to install air conditioners in places to facilitate heat dissipation.
Relative humidity	Work long-term in the 20% to 95% environment and short-term in the 10% to 97% environment.
Ambient air pressure	86kPa~106kPa.
Windows	Dust-proof rubber strips must be added for sealing. It is recommended that windows be installed with double-glazing and strictly sealed.
Wall	Wallpaper can be applied or matte paint can be applied, but paint that is easily powdered should not be applied.
Fire protection requirements	The control room should be equipped with an automatic fire alarm system and a portable fixed fire extinguishing system.

Power requirements	Three independent power supply systems are required for equipment power supply, air conditioning power supply, and lighting power supply. The equipment is powered by AC power supply. The AC power supply adopts 220V±20% 50/60Hz. Please check carefully before operating the equipment.
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3.4. Grounding requirements

- The good ground wire design of each functional module is the basis for the stable and reliable operation of the whole machine, and is the primary guarantee for lightning protection and anti-interference. Therefore, system grounding must follow the following principles;
- Both ends of the outer conductor and shielding layer of the coaxial cable should maintain good electrical contact with the outer surface of the metal chassis of the connected equipment;
- The ground conductor must use copper conductor to reduce high-frequency impedance, and the ground wire should be as thick and short as possible;
- The connection points at both ends of the grounding wire should be confirmed to have good electrical contact and should be treated with anti-corrosion treatment;
- It is strictly prohibited to use other equipment as part of the electrical connection of the ground wire;
- The cross-sectional area of the ground wire connecting the cabinet to the lightning protection unit must be greater than or equal to 25mm².

3.4.1. Cabinet grounding

The ground terminals of each cabinet in the same computer room should be connected to the protective ground copper bar provided by the control room. The grounding wire is required to be as short as possible. If the wiring is too long during project installation, it should be cut off to avoid coiling of the grounding wire. The cross-sectional area of the conductor from the ground terminal to the ground bar must be greater than or equal to 25mm².

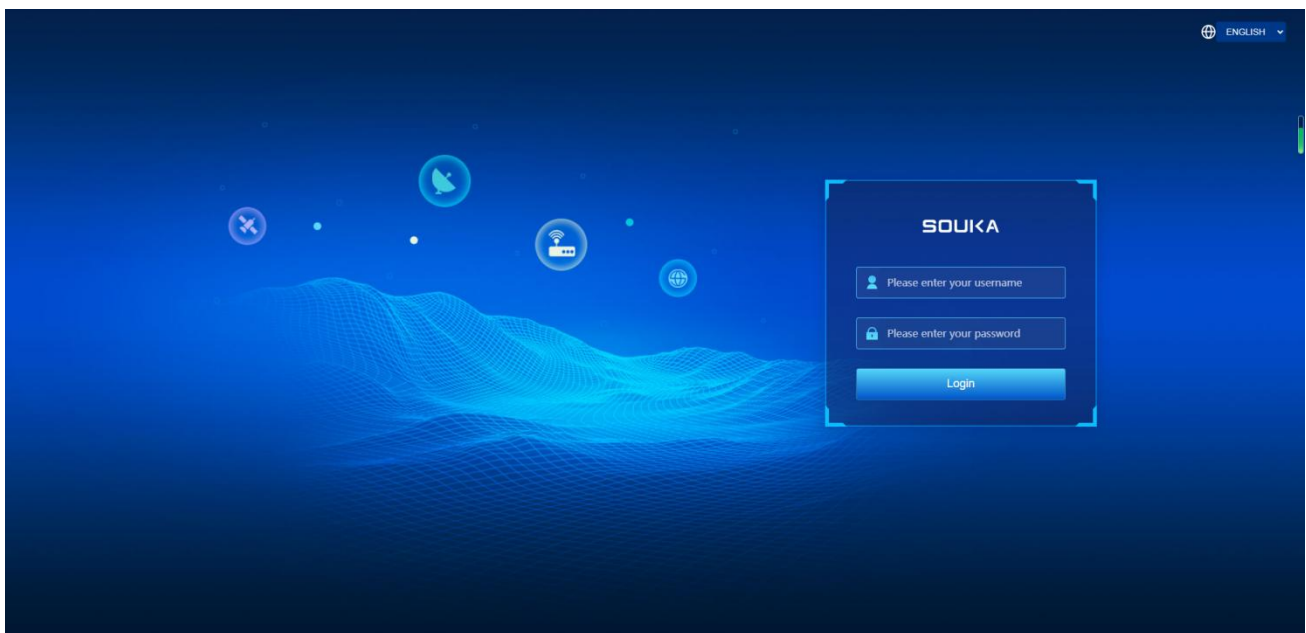
4. Built-in web management terminal operation

4.1. Preparation before operation

- The NMS network port of the device is connected to the PC network port;
- Power the equipment;

4.2. Login interface

- You can check the IP address of the device through the operation panel.
- Open IE browser/Firefox browser/Google Chrome/Opera browser/Maxthon browser, enter the device IP address in the address bar (generally default: 192.168.1.30), and after confirmation, the login interface will be displayed as follows:
- Enter username and password, the default is: user
- Click to log in



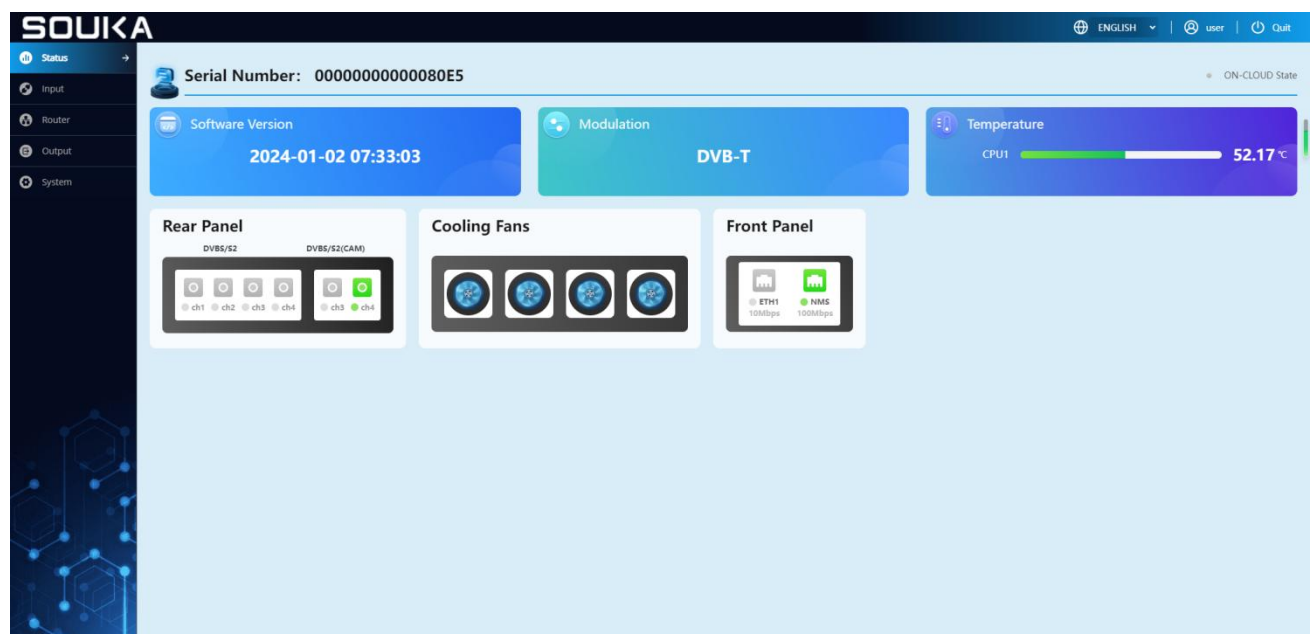
Notice:

1. If the connection cannot be made, please check whether the PC and the device are on the same network segment. If not, please add a new network segment in the advanced TCP/IP settings of the PC. For example: the PC's IP address is 192.168.99.252, which can be changed to 192.168.2.xxx (xxx can be any value from "1" to "254" except "252" to avoid IP

conflicts).

2. If you still cannot connect after the above operations, or you forgot to log in to the IP address, please operate the front panel of the device to restore the factory default values.
3. If you need to change the language, please change it in the upper right corner of the page. Select ENGLISH/简体中文.

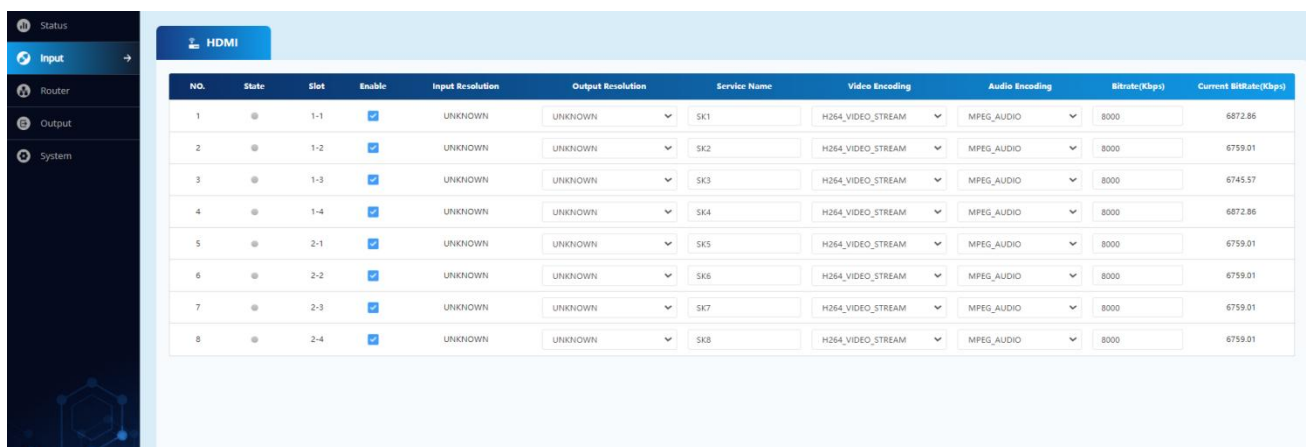
4.3. Device status



Devise serial number	Display device serial number
Software version	Display the current software version number of the device
Modulation format	Display the modulation system currently output by the device
Temperature	Display the temperature of the device's core board, and display the number of temperature progress bars based on the number of core boards.
Rear panel	Display the current access status of the rear panel. Green: connected; gray: not connected

Fans	Display the operating status of the fans in the device. Under normal conditions, all fans will rotate. Blue: running; black: stopped; the fan stops running and a yellow triangle warning appears⚠
Frontal panel	Displays the current access status of the front panel. Green: connected; gray: not connected
Language settings	简体中文/ENGLISH
User name	Display the user name currently logged in to the device backend
Quit	Exit the device background management terminal
Cloud network management binding status	Displays the binding status of the device on souka cloud. Green: bound; gray: unbound

4.4. Input management



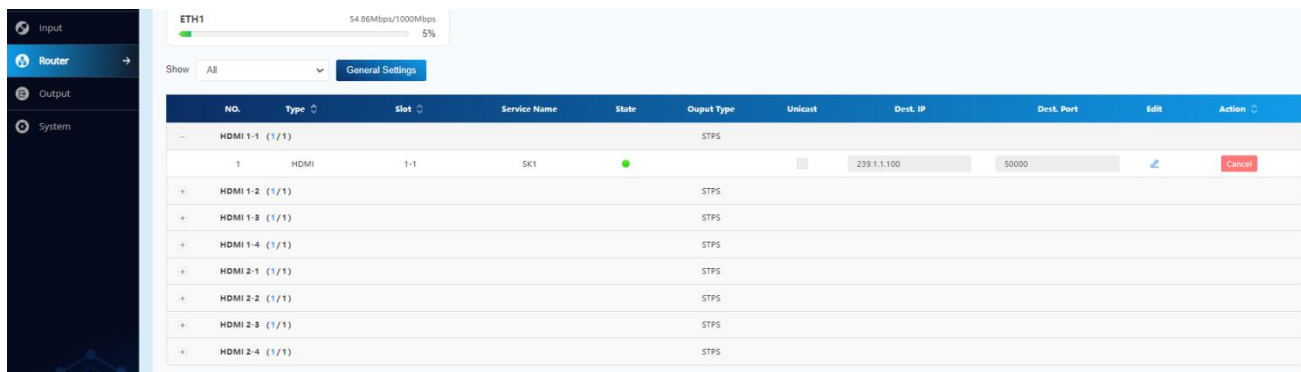
NO.	State	Slot	Enable	Input Resolution	Output Resolution	Service Name	Video Encoding	Audio Encoding	Bitrate(Kbps)	Current Bitrate(Kbps)
1	●	1-1	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	SK1	H264_VIDEO_STREAM	MP3_AUDIO	8000	6872.86
2	●	1-2	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	SK2	H264_VIDEO_STREAM	MP3_AUDIO	8000	6759.01
3	●	1-3	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	SK3	H264_VIDEO_STREAM	MP3_AUDIO	8000	6745.57
4	●	1-4	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	SK4	H264_VIDEO_STREAM	MP3_AUDIO	8000	6872.86
5	●	2-1	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	SK5	H264_VIDEO_STREAM	MP3_AUDIO	8000	6759.01
6	●	2-2	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	SK6	H264_VIDEO_STREAM	MP3_AUDIO	8000	6759.01
7	●	2-3	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	SK7	H264_VIDEO_STREAM	MP3_AUDIO	8000	6759.01
8	●	2-4	<input checked="" type="checkbox"/>	UNKNOWN	UNKNOWN	SK8	H264_VIDEO_STREAM	MP3_AUDIO	8000	6759.01

Serial number	Display the serial number of the channel number to visually display the number of channels
Status	Display the signal status of the channel. ·Gray: The signal is not connected; ·Green: The signal is locked and analyzed successfully;
Channel	Display the card and corresponding channel number. For example: 1-1

	represents the first channel of card 1.
Enable	Control whether the channel signal is turned on or off
Input resolution	Display the resolution of the input signal source
Output resolution	Set the resolution of the output signal. 1920×108030P or 1280×720 60P
Service name	Set the service name, up to 31 bytes.
Video format	Default H264_VIDEO_STREAM
Audio format	MPEG_AUDIO or AAC optional
Set encoding bitrate	The value range is 2000-19000. The higher the bit rate, the higher the definition, which is related to the input resolution.
Current encoding bit rate	Show the actual encoding bit rate
Timeout	Set the automatic refresh time of table data, the value range is 1-30s

4.5. Router management

In routing management, we can analyze and forward programs.

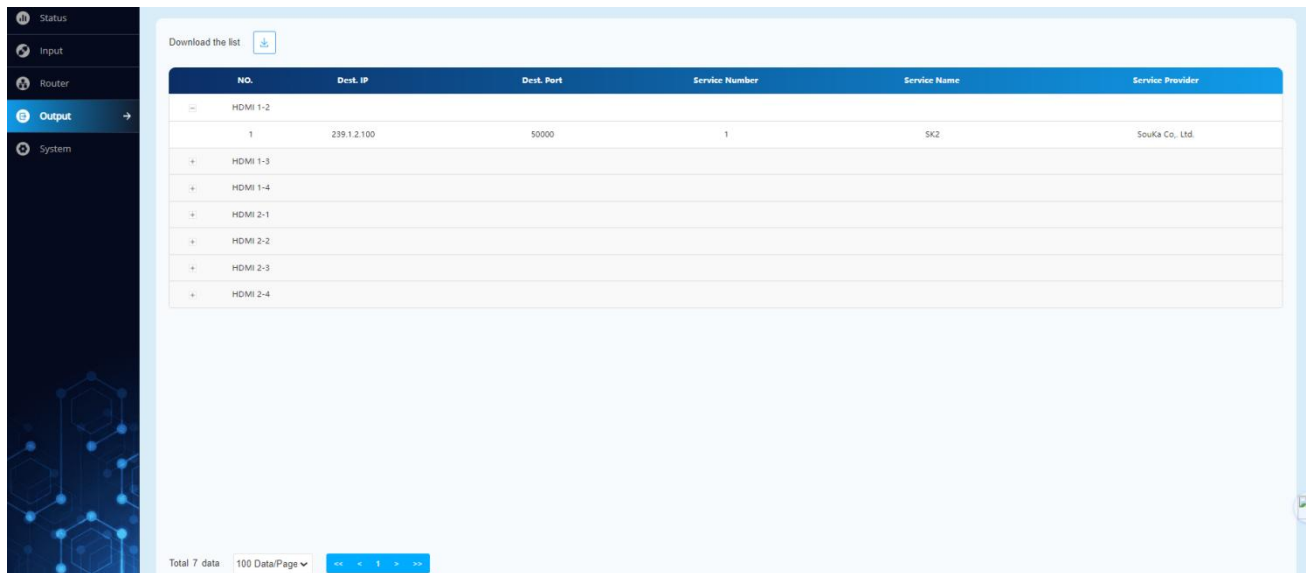


The screenshot displays the 'Router' management page in the SOUKA interface. On the left is a sidebar with 'Input', 'Router', 'Output', and 'System' options. The main area shows a table of routing rules. At the top, there's a status bar for 'ETH1' with a speed of 54.86Mbps/1000Mbps and a 5% usage indicator. Below this is a 'Show' dropdown set to 'All' and a 'General Settings' button. The table has columns: NO., Type, Slot, Service Name, State, Output Type, Unicast, Dest. IP, Dest. Port, Edit, and Action. The first row is expanded, showing details for 'HDMI 1-1 (1/1)' with a service name 'SK1', state 'ON', output type 'STPS', and destination IP '239.1.1.100' and port '50000'. The table lists several other HDMI input slots (1-2 to 2-4) all with 'STPS' output type.

NO.	Type	Slot	Service Name	State	Output Type	Unicast	Dest. IP	Dest. Port	Edit	Action
1	HDMI 1-1 (1/1)	1-1	SK1	ON	STPS		239.1.1.100	50000		Cancel
2	HDMI 1-2 (1/1)				STPS					
3	HDMI 1-3 (1/1)				STPS					
4	HDMI 1-4 (1/1)				STPS					
5	HDMI 2-1 (1/1)				STPS					
6	HDMI 2-2 (1/1)				STPS					
7	HDMI 2-3 (1/1)				STPS					
8	HDMI 2-4 (1/1)				STPS					

4.6. Output management

The output management interface mainly displays the forwarded programs, and can download the program list and export it to the IPTV server



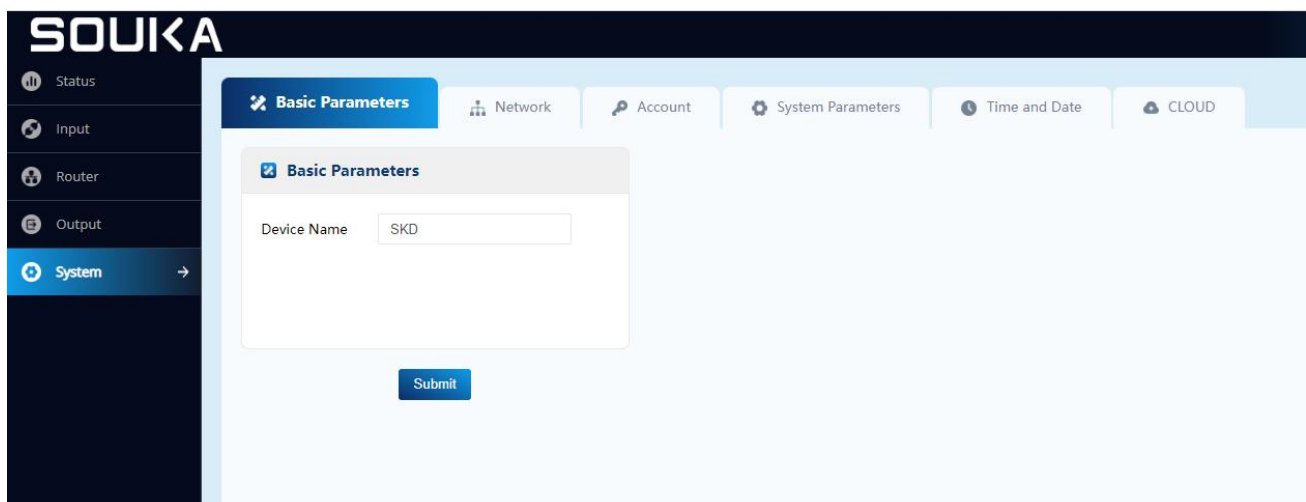
The screenshot shows the 'Output' management interface. On the left is a sidebar with navigation options: Status, Input, Router, Output (selected), and System. The main area displays a table of forwarded programs. Above the table is a 'Download the list' button. The table has columns: NO., Dest. IP, Dest. Port, Service Number, Service Name, and Service Provider. The data rows are as follows:

NO.	Dest. IP	Dest. Port	Service Number	Service Name	Service Provider
HDMI 1-2					
1	239.1.2.100	50000	1	SK2	SouKa Co., Ltd
HDMI 1-3					
HDMI 1-4					
HDMI 2-1					
HDMI 2-2					
HDMI 2-3					
HDMI 2-4					

At the bottom of the table area, it says 'Total 7 data' and '100 Data/Page' with pagination controls.

4.7. System management

Able to perform network and IP input network port settings, password settings, system configuration, time settings and cloud network management binding.



The screenshot shows the 'System' management interface. On the left is a sidebar with navigation options: Status, Input, Router, Output, and System (selected). The main area has tabs for Basic Parameters, Network, Account, System Parameters, Time and Date, and CLOUD. The 'Basic Parameters' tab is active, showing a form with a 'Device Name' field containing 'SKD' and a 'Submit' button.

4.7.1. Network setting

The screenshot shows a web interface for network configuration. At the top, there are tabs: Basic Parameters, Network (selected), Account, System Parameters, Time and Date, and CLOUD. Below the tabs, there are two main sections: NMS and ETH1. The NMS section contains fields for IP Address (192.168.1.30), Subnet Mask (255.255.255.0), Default Gateway (192.168.1.1), Primary DNS (192.168.1.1), Secondary DNS (192.168.1.1), and MAC Address (00:60:70:00:84:FC). The ETH1 section contains fields for IP Address (192.168.100.100) and MAC Address (00:60:70:00:84:03). A Submit button is located at the bottom right of the interface.

Network	
NMS	Network management port, connected computers must be in the same network segment.
ETH1	Network port 1, fill in according to actual needs.

4.7.2. Password setting

Reset a new username and password.

Operation steps: First fill in the username and password in the initial information, and then fill in the new username and password. Only when the initial username and password are entered correctly can the password be modified.

The screenshot shows the 'Account' configuration page in the SOUKA interface. The top navigation bar includes 'Basic Parameters', 'Network', 'Account' (selected), and 'System Parameters'. The 'Account' section is divided into two parts: 'Current User Information' and 'New User Information'. The 'Current User Information' part has fields for 'Current Username' and 'Current Password'. The 'New User Information' part has fields for 'New Username', 'New Password', and 'Confirm Password', followed by a 'Submit' button.

4.7.3. System configuration

In the system configuration, follow the operating instructions to upgrade the system, restore the factory, restart, export the system configuration file, and import the system configuration file. The import and export files can manually back up the system configuration information. When you need to restore the previous configuration information, import The corresponding configuration file is enough.

System Parameters

Upgrade System from file
Click the Browse button below and import the upgrade file, then click the Upgrade button to upgrade the system. The device will automatically restart, after the upgrade is completed.

Restore to factory settings
Click the Restore button to reset the device to the Factory defaults. The device will automatically reboot, when the restore is completed.

Reboot
Click the Reboot button to reboot the device.

Export Settings
Click the Export button, then the device will back up all the current settings into your computer.

Import Settings
Click the Browse button below and load the configuration file, then click the Import button to apply the file. The device will automatically reboot, when the restore is completed.

4.7.4. Time setting

It can automatically calibrate time information, or manually set the time and adjust the time zone according to actual needs.

Time and Date

Enable NTP ☐

Time And Date

Timezone

4.7.5.Cloud network management binding

Please enter the cloud network management system account to bind the device. If you do not have an account, please register an account in the cloud network management system. Enter the cloud network management account and password to bind. After the binding is successful, the binding status light turns green.

Enable	Cloud network management is enabled, checked by default. After unchecking, the device will be disconnected from the cloud network management.
Alarm enable	Checked by default, device alarm information can be detected on the cloud network management.
Server Address	Fill in the server domain name of the cloud network management, default: iptv.soukacatv.com.cn
Server port	Fill in the server port of the cloud network management, the default is 7830
Binding status	Green: Binding successful; Gray: Unbound
Username	User name registered on the cloud network management system
Password	Password registered on the cloud network management system

5. Equipment operation precautions

The company's product quality assurance system includes equipment testing and operating procedure inspections to ensure the reliability of product quality. The company has taken all possible measures before the product leaves the factory. The optical, electrical and mechanical indicators of the products all meet national standards. During use, in order to prevent possible potential problems, the following precautions should be strictly followed for relevant operations.

5.1. Precautions

1. Place the device at an ambient temperature of 0~45 ° C. Other conditions meet the required scope of work.
2. Make sure the rear panel radiator is well ventilated and make sure all jacks are not blocked
3. Check whether the power supply voltage is within the specified range and whether all connections are correct
4. Check whether the adjustment level (dB) change is within its allowable range
5. Check whether the connection of each signal line is loose.
6. Please do not switch machines frequently (the switching interval should be at least 10 seconds)

5.2. The chassis needs to be unplugged from the power supply

1. The power cord or socket is damaged
2. If there is liquid injection equipment
3. Any debris falls into the chassis hole, causing an internal short circuit
4. Use water or soak
5. Collision or internal damage
6. Do not use this machine for a long time

7. If the preset is restored and the power is turned on, the device still does not work properly
8. Equipment needs maintenance

5.3. Common malfunctions

1. Missing program: Please check whether there is a channel conflict, whether the video signal input is normal, and restart the device.

These terms are subject to change without prior notice, and we reserve the right of final interpretation. If you have any further questions, please contact our sales department directly.