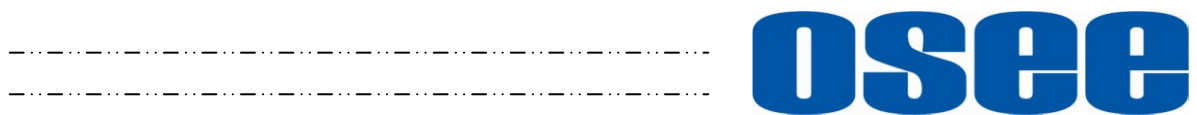


# **ACOHD6800**

## **4X1 Intelligence Switcher**

### **User Manual**





**Product Information**

**Model:** ACOHD6800 4X1 Intelligence Switcher  
**Version:** V010001  
**Release Date:** March 12th, 2015

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**Company**

OSEE TECHNOLOGY CO., LTD.

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**Contact Information**

**Address:** No.22 Building, No.68 zone, Beiqing Road, Haidian District,  
Beijing, China  
**Post Code:** 100094  
**Tel:** (+86) 010-62434168  
**Fax:** (+86) 010-62434169  
**Web:** <http://www.osee-dig.com/>  
**E-mail:** [sales@osee-dig.com](mailto:sales@osee-dig.com)

# About this manual

## Important

The following symbols are used in this manual:

### **Tips**

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- The further information or know-how for described subjects above which helps user to understand them better.
- 

### **Warning**

---

- The safety matters or operations that user must pay attention to when using this product.
- 

## Contents

The user manual applies to the following device types:

- ❖ **ACOHD6800**

The images of ACOHD6800 adopted in the following descriptions.

Any of the different specifications between the device types are elaborated.

Before reading the manual, please confirm the device type.

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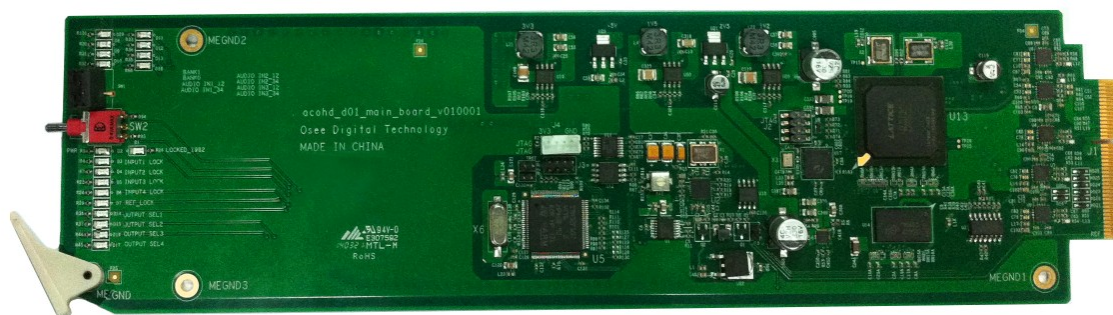
## Chapter 1 Product Overview

This article is mainly about ACOHD6800 module, which is a 1RU card that can be installed in 6800N series frame.

ACOHD6800 4×1 module is an emergency switcher, it offers supervision for the real-time state of input signal, detection and alarm for video loss, EDH, freeze frame and black burst. It can manually or automatically switch from the primary input to the backup input once detecting abnormal signals or alarms, thus it will keep consistency for the output. It is widely used in studio, transmission control rooms, TV Stations and so on.

ACOHD6800 4×1 module offers four SD/HD-SDI input signals, one video loop output with clock recovery, and the primary input IN1 offers a bypass relay protection for the output. It supports the clean switching technology which is realized by the internal circuitry, this technology provides continuous video streams, and ensures a smooth switching without video flashing and audio noise.

Switch control can be performed automatically or manually via GPI or a matched remote control panel. In manual mode, switch control can be undertaken via a remote control panel, or simply via GPI. In automatic mode, the card will perform switch control based on internal signal analysis with alarm conditions, and the status of the inputs. You can get the switched results by the status of the connected remote control panel or the web page on the connected computer. In automatic mode, you can set the automatic switching mode, selecting from downward or upward. The IN1 is a particular bypass channel to ensure continuous output in case of a power failure.



**Figure 1-1 The Module of ACOHD6800**

ACOHD6800 modules support the following features:

### Features

- Provides switching among three input HD/SD-SDI signals, and

provides one reference input signal, one HD/SD-SDI output

- Support selecting control mode between manual control and automatic control
- The automatic mode performs based on signal analysis of video loss, EDH, freeze frame, black burst and audio supervision.
- Build-in automatic horizontal corrector, and adjustable delay
- Detecting the trigger of alarm criteria for the control mode switch-over
- Support controls through remote control panel, GPIO and RS422
- Input IN1 bypass to the output in the event of power failure or module missing
- The input cable equalization automatically
- Support clean switching technology
- Configures the modules through switches or network control panel

**Functionality**

- Alarms when video lost, static frame or detecting black field
- Supports power off memory, the settings will be restored if the module loses power
- Provides frame synchronizer
- Supports intelligent protection function in order to avoiding "misuse". When the input signal is detected abnormal, the switching operation for output would be invalid.

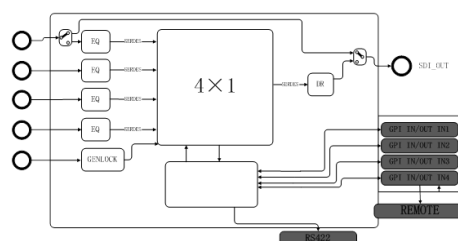
**Product Module**

**Table 1-1 Input/Output Signals Supported by ACOHD6800**

Module Type	Input	Output
ACOHD6800	four HD/SD-SDI video input one REF input	one HD-SDI loop output with clock recovery

**Signal Flow Chart**

The signal flow chart for this unit is shown as in Figure 1-2:



**Figure 1-2 The Signal Flow Chart of ACOHD6800**



## **Chapter 2 Safety**

### **FCC Caution:**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

## Warnings:

Read, keep and follow all of these instructions for your safety. Heed all warnings.

### **Warning**

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- **4×1 Switcher**
    - Upgrading of the converter is subject to change without notice.。
    - Contact your Customer Service representative if parts are missing or damaged.
- 

### **Warning**

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- **Position**
    - Do not block any ventilation openings.
    - Do not use this unit near water.
    - Do not expose the unit to rain or moisture.
    - Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that product heat.
    - A nameplate indicating operating voltage, etc., is located on the rear panel.
    - The socket-outlet shall be installed near the equipment and shall be easily accessible.
-

## Chapter 3 Unpack and Installation

### Unpack

When unpacking the components of this switcher, please verify that none of the components listed in Table 3-1 are damaged or lack. If there is any missing, contact your distributors or Beijing Osee Digital Technology Ltd. for it.

**Table 3-1 Packing List**

No.	Item	Quantity	Comments
1	Switcher	1	ACOHD6800
2	Rear connector	1	
3	Attachments	1	
4	User manual	1	
5	warranty card	1	

### Tips

- **About Unpacking and Shipping**
  - This product was carefully inspected, tested, and calibrated before shipment to ensure years of stable and trouble-free service. Before you install this unit, do the followings:
    - Check the equipment for any visible damage that may have occurred during transit.
    - Confirm receipt of all items on the packing list.
    - Contact your dealer if any item on the packing list is missing.
    - Contact the carrier if any item is damaged.
    - Remove all packaging material from the product before you install the unit.
    - Retain at least one set of the original packaging materials, in the event that you need to return a product for servicing.
  - If the original package is not available, you can supply your own

packaging as long as it meets the following criteria:

- The packaging must be able to withstand the product's weight.
  - The product must be held rigid within the packaging
  - There must be at least 5 cm of space between the product and the container.
  - The corners of the product must be protected.
- Ship products back to us for servicing prepaid and, if possible, in the original packaging material. If the product is still within the warranty period, we will return the product prepaid after servicing.

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## Installation

### 1. Prepare for installation

Make sure you have prepared the followings before mount the converter:

- Inspect for any apparent physical damage that may have occurred in transit.
- Make sure you have received all the components listed in packing list.
- if there are any anti-static package or other packages, please take off them.
- Keep the package in case of future usage.

## Warning

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- The safety matters or operations that user must pay attention to when using this product.
  - Check out the consumption of module and the maximum power of frame before installation, the maximum power ratings for different frames are shown as in Table 3-2.
  - Ensure that all handling precautions are taken to avoid electrostatic discharge or other damage to sensitive electronic components. Wear an earth strap and perform all PCB assembly at an appropriate anti-static work station. Follow the instructions carefully to fit the modules.
-

**Table 3-2 Maximum Power Ratings for 6800N Series Frames**

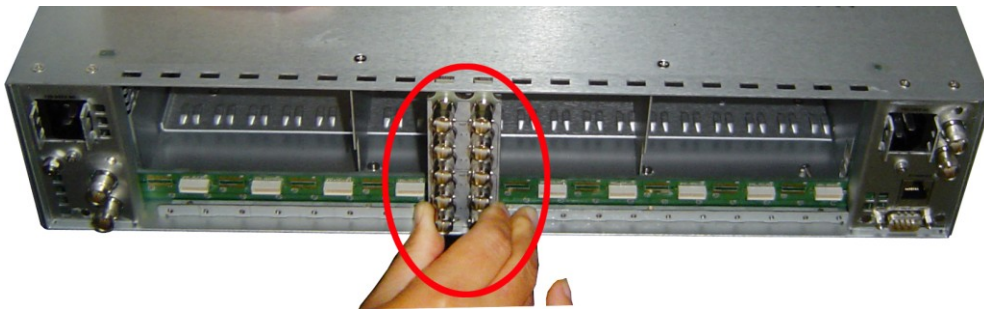
Frame	Maximum Voltage	Redundant Supplies	Power	Numbers of Slots
6800N-C1	40W	Yes		4
6800N-C2	60W	Yes		10

**2. Install the module**

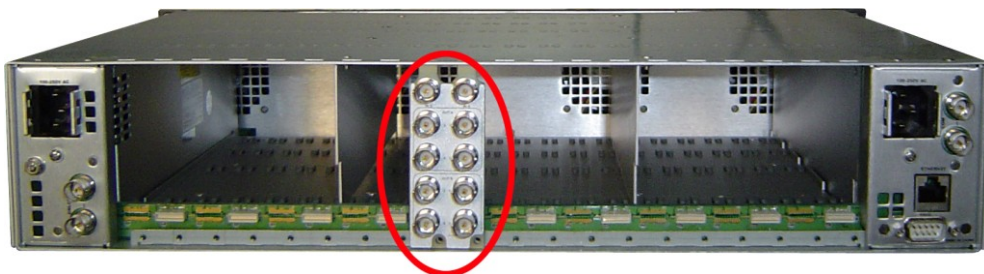
Follow the following steps to install the module:

**Step 1 Install a rear connector**

First, install the rear connector at the rear of the frame. Locate the position for rear connector and insert the rear connector along the slot, as shown in Figure 3-1 and Figure 3-2.

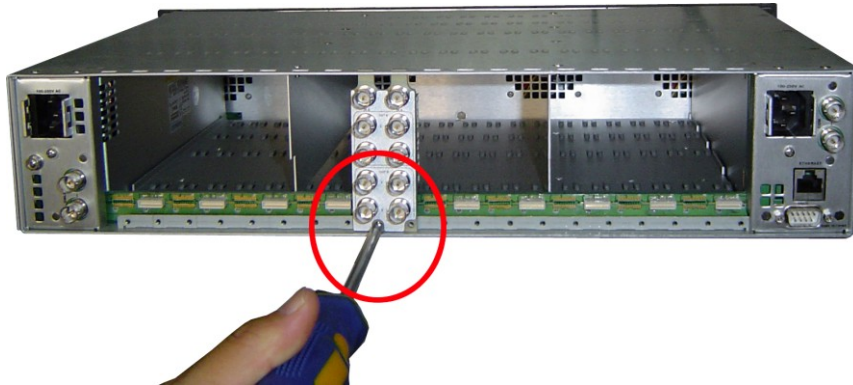


**Figure 3-1 Rear Panel-Insert the Rear Connector**



**Figure 3-2 Rear Panel-Fix the Rear Connector**

**Step 2 Fasten the screw to fix the rear connector, as shown in Figure 3-3.**



**Figure 3-3 Rear Panel-Fasten the Rear Connector**

**Step 3 Locate the slot for module, as shown in Figure 3-4.**



**Figure 3-4 Front Panel-Push the Module into the Slot**

**Step 4 Get the module installed in the slot.**

Then, push the module slightly along the slot, press module again to confirm that the module is installed firmly and then close extractor handle, as shown in Figure 3-5.



**Figure 3-5 Front Panel-Close the Extractor Handle of the Module**

**Step 5 Install the front panel.**

At last, install the front panel of the frame, as shown in Figure 3-6.



**Figure 3-6 Front Panel-Install the Front Panle**

**Uninstallation**

Follow the following steps to remove the module:

**Step 1 Remove the front panel of the frame.****Step 6 Loosen and take off the module**

Press down the extractor handle to loosen the module, as shown in Figure 3-7.



**Figure 3-7 Press Down the Extractor Handle**

Then, hold the swivel handle, and pull out the module along the slot of the frame.

**Step 7 Install the front panel.**

Take off the module, and mount the front panel on the frame.

**Step 8 Take off the rear connector**

Unscrew the screws of the rear connector, and take off the rear connector.

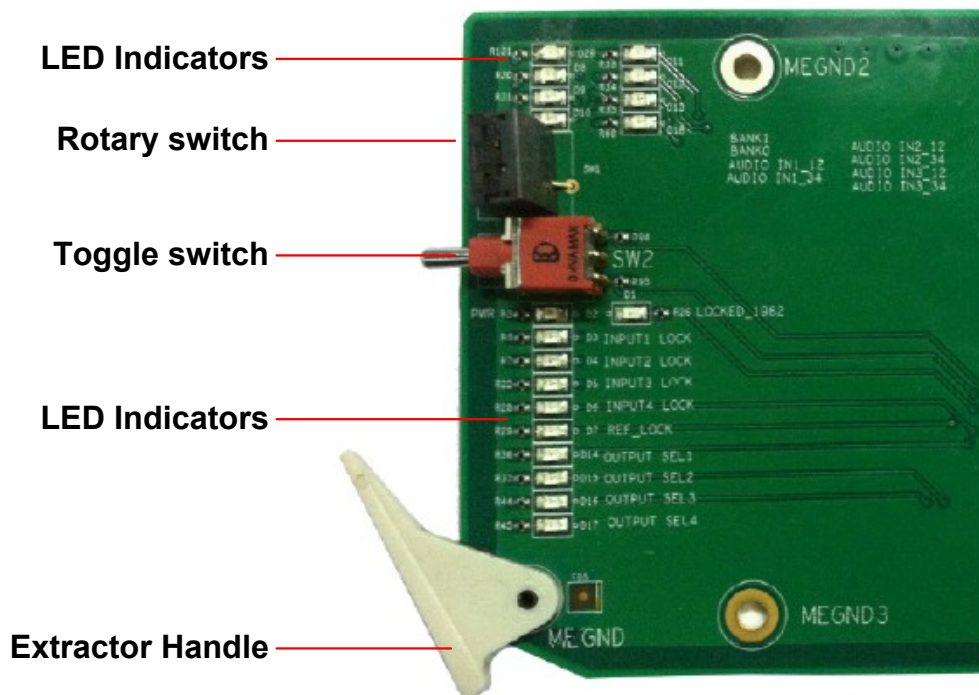
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## Chapter 4 Features

### 4.1 ACOHD6800 Module Features

The control switches and the LED indicator lights of ACOHD6800 module are as shown in Figure 4-1:



**Figure 4-1 The Switches and LED Lights of ACOHD6800**

**1. Rotary switch**

It is a rotary switch which has 16 positions coded from 0 to F, it is used to select and point to a parameter item.

**2. Toggle switch**

It is a toggle switch which has 3 positions which will get back to the middle position automatically, It is used to set the parameters which has been selected by SW1 through toggling up or down the handle.

**3. LED Indicator**

4. The module has a number of LED indicators, and they are indicate the module status and functions, refer to “3 Alarm Settings

The automatic mode performs based on these alarm criteria: video loss,

EDH, freeze frame, black burst and audio loss.

In the following alarm table, the details about the alarm settings are as follows: Alarm Trigger Conditions, Alarm Levels and the trigger intervals(Duration), as shown in Table 5-5:

**Table 5-5 the Comparison of Alarm Settings and Alarm Conditions**

Alarm Items\Settings	Alarm Trigger Conditions	Default Settings	
		Alarm Levels	Trigger Intervals(s)
Signal Loss	Detecting SDI IN1, SDI IN2, SDI IN3, or SDI IN4 of video is loss or unknown.	First-level alarm	0
Black Burst	The video is black burst when detecting the input signal is lower than Black Burst Threshold and higher than the Black Burst Duration.	Second-level alarm	1
Freeze	The video freezes when detecting the input signal is higher than Freeze Threshold and Freeze Duration.	Second-level alarm	125
EDH Error	Detecting the EDH error of the input signal	Second-level alarm	1
Audio Loss	If any group of audio is loss, it will trigger Audio Loss alarm.	Second-level alarm	1

### Tips

- The duration of each alarm trigger condition is adjustable, the range is 0~65535. If the alarm level is reached for less time than its trigger duration, then the alarm will not trigger.
  - Alarm Levels
    - First-level alarm: when detecting the first-level alarm, it will not activate the automatic switch between input channels, but there will be the corresponding alarms reflecting in the button status of remote control panel, SNMP prompts and the indicator status.

- Second-level alarm: when detecting the second-level alarm, it will activate the automatic switch. You can set the duration after detecting the alarm condition and before the trigger for switching operation. Less than this duration, it will not activate the switching operation if the alarm restored, otherwise it will activate the switching operation if the alarm still not vanished.

**i Tips**

- The parameters modification of the module can be done through these switches (SW1 and SW2), or in the network control page.

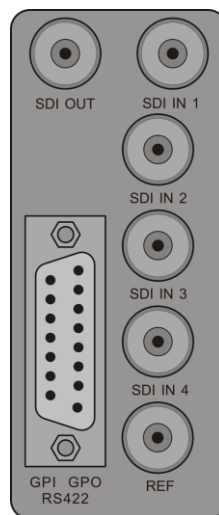
LED Indicator” for details.

Refer to “Chapter 5 Operation and Control” for the operation instructions of the switches and LED indicators.

**4.2 Rear Connector Features**

1. Illustration for rear connector

We provide a rear connector module to support SDI input and output function for ACOHD6800 module. The rear connector is shown as in Figure 4-2:



**Figure 4-2 The Rear Connector of ACOHD6800**

The interfaces on the rear connector of ACOHD6800 are shown as Table 4-1:

**Table 4-1 The interfaces on the Rear Connector**

Interface	Connector	Description	Comments
SDI IN1	BNC	SD/HD-SDI input1	Set as the primary signal source, the signal is normally direct as the output signal source.
SDI IN2	BNC	SD/HD-SDI input2	Set as the secondary signal source, the signal will be direct as the output signal source when IN1 is fault.
SDI IN3	BNC	SD/HD-SDI input3	Set as the third signal source, the signal will be direct as the output signal source when IN2 is fault.
SDI IN4	BNC	SD/HD-SDI input4	Set as the reference signal source, usually using still image, such as color stripe, test chart as this signal. it can be output to SDI OUT manually when the other three signals were all fault.
REF	BNC	Sync signal input	For external synchronization, connect a synchronous signal to REF IN
SDI OUT	BNC	SDI output	Output the selecting signal source. When the module was pulled out or power failure, the SDI IN1 will be selected as the signal source and output. Video loop output with clock recovery.
GPI/GPO /RS422	DB15	GPI/GPO/RS422	Connect to a remote control panel or other control devices for remoter control via this interface

### Tips

- When ACOHD6800 module is in normal status, plug out the module and the output signal will switch to a backup channel signal, the switching time is less than 2s. Then if the module is plugged in, the output signal will switch to the latest output signal source, and the switching time is less than 2s.

- Select a single one REF IN connector from the ACOHD6800 module or the frame where the ACOHD6800 module installed in, thus to imported a single synchronous signal in case of conflict.

## 2. Comparison of Line Sequence

ACOHD6800 Module sets up the connection with ACOHD6800 RCP via RS422 interface, the comparison of the line sequence are as shown in Table 4-2:

**Table 4-2 Comparison between the DB15 interface Line Sequence of ACOHD6800 Module and the RJ45 interface Line Sequence of ACOHD6800 RCP**

DB15	Signal	Line Color	RJ45	Signal	Line Color
1	422TX-	Black	1	GND	Orange
2	422RX+	Brown	2	GND	White/Orange
3	GND	Red	3	422RX-	White/Green
4	GPI01	Orange	4	422TX+	Blue
5	GPI4	Yellow	5	422TX-	White/Blue
6	GPI3	Dark Green	6	422RX+	Green
7	GPI2	Blue	7	NC	
8	GPI1	Purple	8	NC	
9	422TX+	Gray			
10	422RX-	White			
11	GPI02	Pink			
12	GPO4	Light Green			
13	GPO3	White/Black			
14	GPO2	White/Gray			
15	GPO1	White/Red			

Main Module: Cross connection between DB15 and RJ45, (DB15)TX—RX(RJ45) (DB15)RX—TX(RJ45)  
 Slave Module: Cross connection between DB15 and RJ45 (DB15)TX—RX(RJ45) (No need for RX connection, for the slave module doesn't return any data)

## Tips

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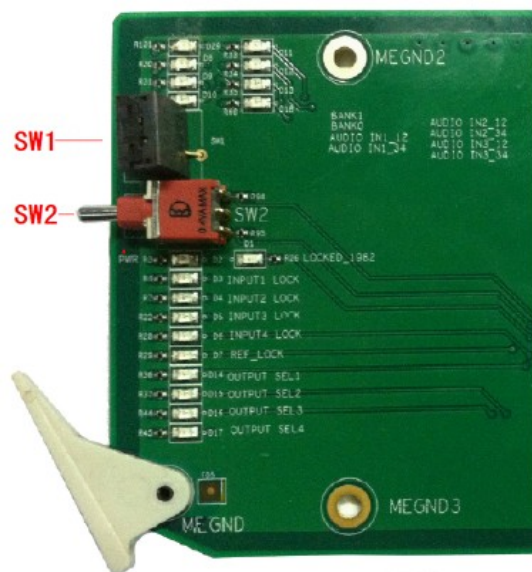
- An ACOHD6800 module act as the main module if it connects to the remote control panel via the RS422-2 interface of the remote control panel, and an ACOHD6800 module act as the slave module if it connects to the remote control panel via RS422-3 interface. The connection relationship of the communication interfaces refers to Table 4-2.
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## Chapter 5 Operation and Control

This chapter describes the main functionality and working mode of ACOHD6800.

### 5.1 Instructions on Control and Operation

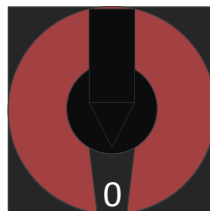
The control switches are at the edge of the module, as shown in Figure 5-1:



**Figure 5-1 The Position of Control Switches**

The function and usage of the switch are as follows:

1. SW1: It is a rotary switch which has 16 positions coded from 0 to F, it is used to select and point to a parameter item. The selection range is: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F.



**Figure 5-2 Rotary Switch Pointing at 0**

For example: as shown in Figure 5-2, the pointer is pointing at the position 0, that is Bank Select as shown in Table 5-1.

2. SW2: It is a toggle switch which has 3 positions which will get back to the middle position automatically, It is used to set the parameter value which has been selected by SW1 through toggling up or down the handle.



**Figure 5-3 Toggle Switch Moving Up And Down**

For example: as shown in Figure 5-3, there are three positions of SW2, but the handle will always be back to the middle position automatically after toggling it up or down. After you switching SW1 to a parameter item, toggle SW2 up or down to set the parameter value.

### **i** Tips

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- When setting parameters, the LED indicators will indicate the status of the module.
  - SW1 identifies the rotary switch, and SW2 identifies the toggle switch in this article.
- 

## **5.2 Instructions on Parameter Settings**

It will introduce how to set the parameters and the meanings of LED indicators in the followings.

### **5.2.1 Parameter Settings**

ACOHD6800 module has two Banks, they are Bank0 and Bank, each Bank is divided into 16 menu items, and each menu item has a parameter value or a status. Set up these items to control the module or check its status.

You can judge whether you have selected a Bank by LED indicator at the edge of the module, refer to Table 5-6 for details.

Do as the following instructions:

- Rotate SW1 to position 0 for bank selection, and toggle SW2 to select a proper Bank. Toggle SW2 up to select BANK 0, and toggle SW2 down to select BANK 2.



- Then, switch SW1 to a menu parameter item (1~F) of the option you want to set, and toggle SW2 to select and set the value of the chosen parameter item.

## Tips

- The position 0 of every Bank is always used to select Bank, that is, whichever Bank it is, as long as you switch SW1 to position 0, toggle SW2 to select a Bank.

### 5.2.2 Menu Items

You can set the control mode, switch intervals, alarm levels, alarm parameters etc. by using the menu items.

The functions and value range of each Bank menu items are as shown in Table 5-1, Table 5-2.

You can use the combination expression of the bank position and the SW1 position listed in a pair of square brackets to represent a parameter item. For example [0, 1], it represents selecting BANK0 and then rotate SW1 to 1 position for Control Mode selection. The other items are as below.

**Table 5-1 SW1 Function Settings of Bank 0**

SW1 Position	Function	Value(Setting by SW2)	Default
0	Bank Select	Bank0, Bank1	Bank 0
1	Control Mode	0:manual 1:auto	1
2	Auto Period	0~255(second)	0
3	Auto Switch Mode	00: mode 1, switch to 01: mode 2, switch to 10: mode 1, switch back 11: mode 2, switch back	mode 1,switch to
4	Signal Loss Detection	0: disable 1: enable	1
5	Signal Loss Alarm Levels	15: switch (level 1) 0: alarm (level 2)	15
6	EDH Detection	0: disable 1: enable	1

SW1 Position	Function	Value(Setting by SW2)	Default
7	EDH Detection Alarm Levels	15: switch (level 1) 0: alarm (level 2)	0
8	Freeze Detection	0: disable 1: enable	0
9	4 Channels Freeze Threshold	0~255	125
A	Freeze Duration	0~65535(frame)	125
B	Freeze Alarm Levels	15: switch (level 1) 0: alarm (level 2)	0
C	Black Burst(BB) Detection	0: disable 1: enable	0
D	Black Burst Threshold	0~255	48
E	Black Burst Duration	0~65535(frame)	1
F	Reserved	-	-

**Table 5-2 SW1 Function Settings of Bank 1**

SW1 Position	Function	Value(Setting by SW2)	Default
0	Bank Select	Bank0, Bank1	Bank 0
1	Black Burst Alarm Levels	15: switch (level 1) 0: alarm (level 2)	0
2	Audio Loss Detection (ch1 & ch2 all loss)	0: disable 1: enable	0
3	Audio Loss Duration (ch1 & ch2)	0~65535	1
4	Audio Alarm Levels	15: switch (level 1) 0: alarm (level 2)	0
5	Factory Recall	0: no operation 1: factory recall	0
6	Current Output Channel Selection	0: channel1 sel 1: channel2 sel 2: channel3 sel 3: channel4 sel	0
7	Input Video Format	0:SDI525I60 1:SDI625I50 6:SDI1080I59.94	0

SW1 Position	Function	Value(Setting by SW2)	Default
		7:SDI1080I50	
8	HPhase	0~65535(Refer to Table 5-3)	0
9	VPhase	0~65535(Refer to Table 5-3)	0
A	Safety switch enable	0: disable 1: enable	0
B	Forbid ch3 detect	0: disable 1: enable	0
C	Forbid ch4 detect	0: disable 1: enable	0
D~F	Reserved	-	-

### Tips

- You can shut down the detection of status and alarm criteria by the corresponding settings in ACOHD6800 module through its web control page. Set the **Forbid ch3 detect** item and the **Forbid ch4 detect** of ACOHD6800 module to be enable separately, thus to control the detection status to CH3 or CH4.
- The phase range adjusted in vertical and horizontal direction are different from the formats of input videos, refer to Table 5-3 for the range about HPhase and VPhase.
- You can activate the intelligent protection function by setting the value of **Safety switch enable** item to be enable, thus if you will be not able to switch to a broken input signal source, or you can inactive the **Safety switch enable** item by setting its value as disable.

### Warning

- ACOHD6800 module is not adaptive for the input signal format. It has only four kinds of Input Video Formats for selection: SDI525I60, SDI625I50, SDI1080I50, SDI1080I59.94. Make sure the format of the input signal must match the value of “Input Video Formats”, or the video screens will flash to

prompt !

**Table 5-3 the Relationship of Input Video Format and Phases**

Input Video Format	HPhase	VPhase
525i60	0~1716	0~525
625i50	0~1728	0~625
1080i50	0~2640	0~1125
1080i59	0~2200	0~1125

1. Control Mode Selection

The control mode contains two kinds: Manual Control Mode and Automatic Control Mode, you can select a mode by parameter settings or trigger operations.

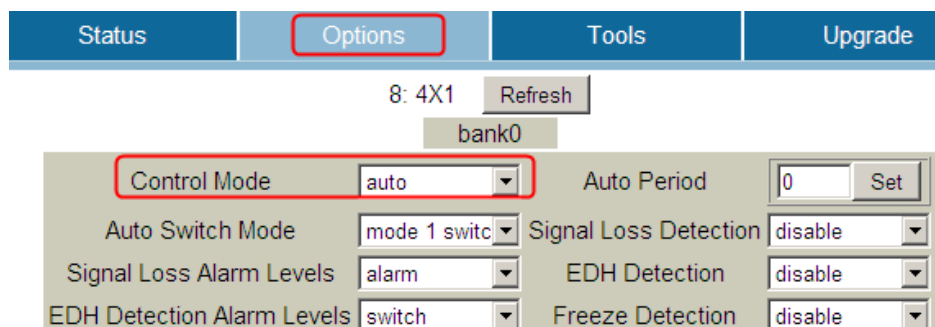
- Parameter settings-Switch between automatic control mode and manual control mode

- By switches

As shown in Table 5-1, rotate SW1 to 0 position, and toggle SW2 for bank selecting, toggle SW2 until the BANK0 indicator is light which means it is in BANK0 position. Then, rotate SW1 to 1 position, and toggle SW2 to adjust the value of Control Mode up to auto, thus the control mode is assigned to Automatic Control Mode.

- By network control page

As shown in Figure 5-4, select **Options**→ **Control Mode** to be auto, thus, the control mode is assigned to Automatic Control Mode. Refer to “5.4 Network Control” for operations in network control page.



**Figure 5-4 Set Switch Mode in Network Control Page**

- Trigger operations-Switch between automatic control mode and manual control mode

□ Manual Control Mode → Automatic Control Mode

If you have done nothing in **Auto Period** when in manual control mode, the device will change to auto mode automatically. The default setting of **Auto Period** is 0 second, it is not supported to be customized now.

□ Automatic Control Mode → Manual Control Mode

If you have switched to an input channel manually when in automatic mode, the **Control Mode** will change to **manual**. Since the **Auto Period** is 0 second by default, the control mode will restore to be Automatic Control Mode immediately after switching to an input channel manually.

## 2. Automatic Control Mode Selection

- Automatic switch mode

There are four automatic modes, as shown in Table 5-4:

**Table 5-4 Automatic Modes**

Modes	Logics	Switch Logic	Description
Mode No.1	Logic 1: Switch down	IN1→IN2 switch automatically from IN1 to IN2, or switch manually to IN3 or IN4	When IN1 is fault, it will switch down to IN2 automatically; When IN2 is fault, it can't switch to IN1 automatically, but you can switch to IN3 or IN4 manually.
	Logic 2: Switch up and down	IN1↔IN2 switch over between IN1 and IN2, or switch manually to IN3 or IN4	When IN1 is fault, it will switch down to IN2 automatically; When IN2 is fault, it will switch up to IN1 automatically, or you can switch to IN3 or IN4 manually.
Mode No.2	Logic 1: Switch down	IN1→IN2→IN3 switch automatically from IN1 down to IN2 and down to IN3, or switch manually to IN4	The available direction is downward among IN1, IN2 and IN3. When IN1 is fault, it will switch down to IN2 automatically, and if IN2 is fault, it will switch down to IN3 automatically, or you can switch to IN4 manually. If the current output source is fault and the switch condition is

Modes	Logics	Switch Logic	Description
			happening, but the other available switching channels are all fault, then, it will keep the current output and do nothing. Take Example 1 for example.
	Logic 2: Switch up and down	IN1↔IN2↔IN3 switch over among IN1, IN2 and IN3, or switch manually to IN4	The available direction is downward and upward among IN1, IN2 and IN3. When IN1 is fault, it will switch down to IN2 automatically, and if IN2 is fault, it will switch down to IN3 automatically, or you can switch to IN4 manually. If the current output source is fault and the switch condition is happening, it will switch to the available automatic switching channel. But if all of the other available switching channels are all fault, then, it will keep the current output and do nothing. Take Example 2 for example.

(1) Exapmle1:

**Conditions:** The **Auto Switch Mode** of the device is "mode 2 switch to". The status of IN3 and IN4 are normal, IN1 and IN2 are in First-level alarm, and the current output signal is IN3.

**Action:** If IN3 is loss, it will trigger the First-level alarm of IN3, and the output will keep IN3 without change, then you can switch to IN4 manually. Thus, it can't switch automatically in this situation.

(2) Exapmle2:

**Conditions:** The **Auto Switch Mode** of the device is "mode 2 switch back". The status of IN1, IN2 and IN4 are normal, IN3 is in First-level alarm, and the current output signal is IN2.

**Action:** If IN2 is loss, it will trigger the First-level alarm of IN2, then it will switch to IN1 but not IN3 automatically, or you can switch to IN4 manually.

### 3. Alarm Settings

The automatic mode performs based on these alarm criteria: video loss, EDH, freeze frame, black burst and audio loss.

In the following alarm table, the details about the alarm settings are as follows: Alarm Trigger Conditions, Alarm Levels and the trigger intervals(Duration), as shown in Table 5-5:

**Table 5-5 the Comparison of Alarm Settings and Alarm Conditions**

Alarm Items\Settings	Alarm Trigger Conditions	Default Settings	
		Alarm Levels	Trigger Intervals(s)
Signal Loss	Detecting SDI IN1, SDI IN2, SDI IN3, or SDI IN4 of video is loss or unknown.	First-level alarm	0
Black Burst	The video is black burst when detecting the input signal is lower than Black Burst Threshold and higher than the Black Burst Duration.	Second-level alarm	1
Freeze	The video freezes when detecting the input signal is higher than Freeze Threshold and Freeze Duration.	Second-level alarm	125
EDH Error	Detecting the EDH error of the input signal	Second-level alarm	1
Audio Loss	If any group of audio is loss, it will trigger Audio Loss alarm.	Second-level alarm	1

### Tips

- The duration of each alarm trigger condition is adjustable, the range is 0~65535. If the alarm level is reached for less time than its trigger duration, then the alarm will not trigger.

#### ■ Alarm Levels

- First-level alarm: when detecting the first-level alarm, it will not activate the automatic switch between input channels, but there will be the corresponding alarms reflecting in the button status of remote control panel, SNMP prompts and the indicator status.
- Second-level alarm: when detecting the second-level alarm, it will activate the automatic switch. You can set the duration after detecting the alarm condition and before the trigger for switching operation. Less than this duration, it will not activate the switching operation if the alarm restored, otherwise it will activate the switching operation if the alarm still not vanished.

**i Tips**

- The parameters modification of the module can be done through these switches (SW1 and SW2), or in the network control page.

### 5.3 LED Indicator

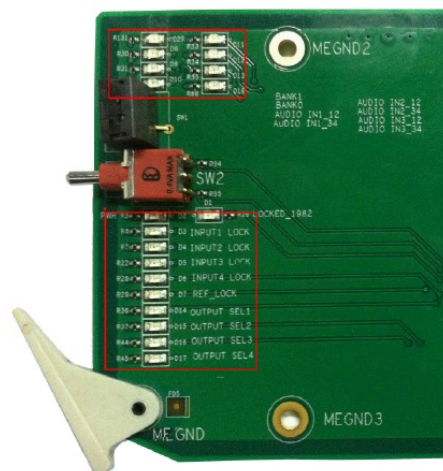
The LED indicators show different color when expressing different meanings, as shown in Table 5-6. You can fix the position of LED indicator by logo printing on the module, as shown in Figure 5-5:

**Table 5-6 The Functionality of Each LED Indicator**

Indicator	Description	Indicator Status		
		Light	Off	Flash
PWR	Power indicator (green).	Power is normal	No power or power is abnormal	--
INPUT1 LOCK	The status of the main input signal	Normal	No input signal or the input is abnormal	--
INPUT2 LOCK	The status of the secondary input signal	Normal	No input signal or the input is abnormal	--
INPUT3 LOCK	The status of the third input signal	Normal	No input signal or the input is abnormal	--
INPUT4 LOCK	The status of the reference input signal	Normal	No input signal or the input is abnormal	--
REF_LOCK	The status of the REF input signal	Normal	No input signal or the input is abnormal	The format is not compatible
OUTPUT SEL1	Whether the current output is the main input signal or not	Yes	No	--
OUTPUT SEL2	Whether the current output is the secondary input signal or not	Yes	No	--
OUTPUT SEL3	Whether the current	Yes	No	--



Indicator	Description	Indicator Status		
	output is the third input signal or not			
OUTPUT SEL4	Whether the current output is the bypass input signal or not	Yes	No	--
BYPASS	Whether IN1 is in bypass status	Yes	No	--
Bank1	The status of Bank1	In work	Not work	--
Bank0	The status of Bank2	In work	Not work	--
AUDIO IN1_12	The status of the audio channel of IN1: channel 1 and channel 2	Normal	Abnormal	Lost
AUDIO IN1_34	The status of the audio channel of IN1: channel 3 and channel 4	Normal	Abnormal	Lost
AUDIO IN2_12	The status of the audio channel of IN2: channel 1 and channel 2	Normal	Abnormal	Lost
AUDIO IN2_34	The status of the audio channel of IN2: channel 3 and channel 4	Normal	Abnormal	Lost
AUDIO IN3_12	The status of the audio channel of IN3: channel 1 and channel 2	Normal	Abnormal	Lost
AUDIO IN3_34	The status of the audio channel of IN3: channel 3 and channel 4	Normal	Abnormal	Lost

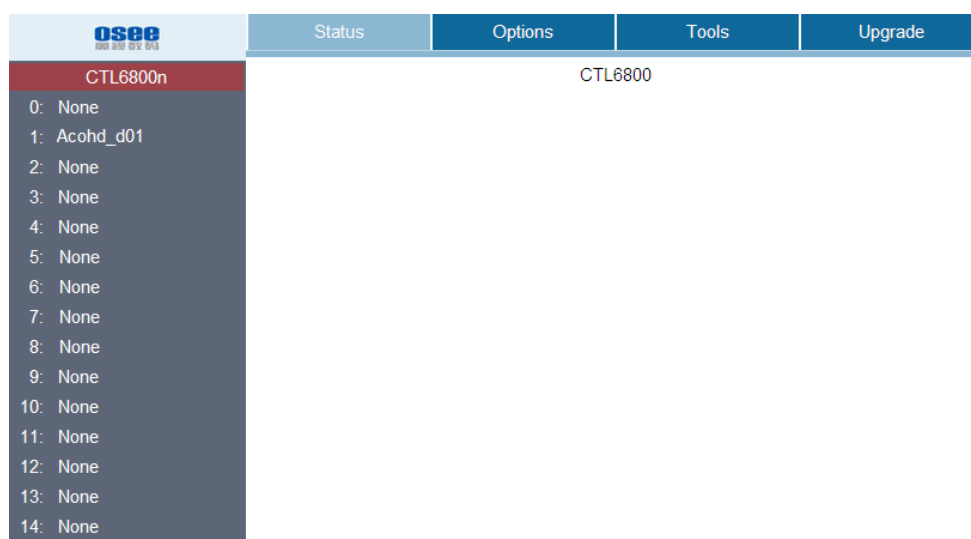


**Figure 5-5 The Logo Printing of LED Indicator**

## 5.4 Network Control

Install the ACOHD6800 module into a 6800N series frame, and it must be cooperate with 6800-FC module which provides network control function in the frame, thus, you can configure and upgrade the ACOHD6800 module by network.

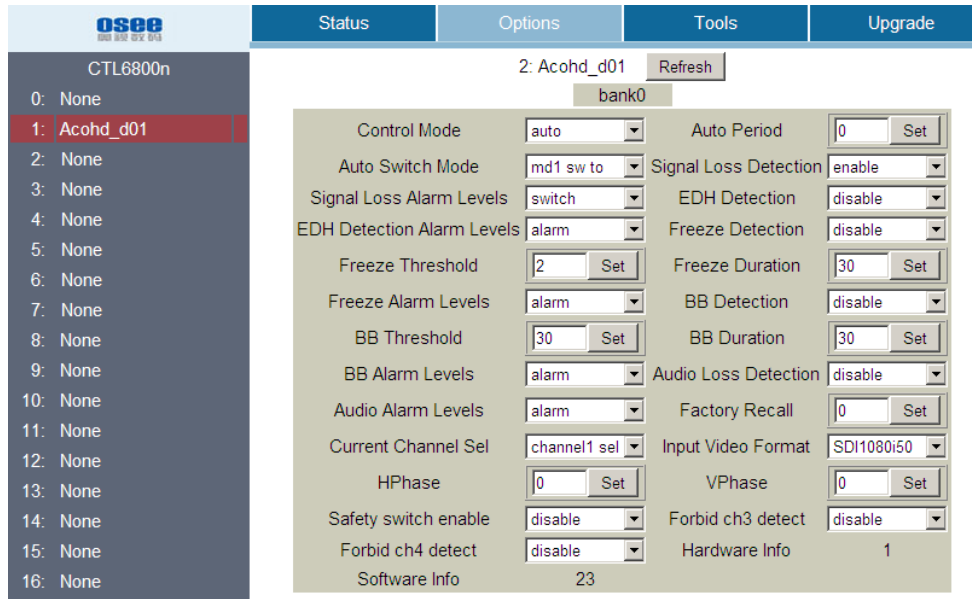
Use a browser to enter into a web control page for ACOHD6800 settings. For example, use Internet Explorer to enter into a web control page. Input <http://192.168.1.138> in address bar, then, press Enter key, it will display the network control page as shown in Figure 5-6:



**Figure 5-6** The Network Control Interface of ACOHD6800 Module

### ■ Options

Click the device list at the left side of the page, selecting ACOHD6800 (4 × 1), then, click **Options** tab at the top of the page to set the menu items used in ACOHD6800, as shown in Figure 5-7, the parameters are as the same as in Table 5-1, Table 5-2.

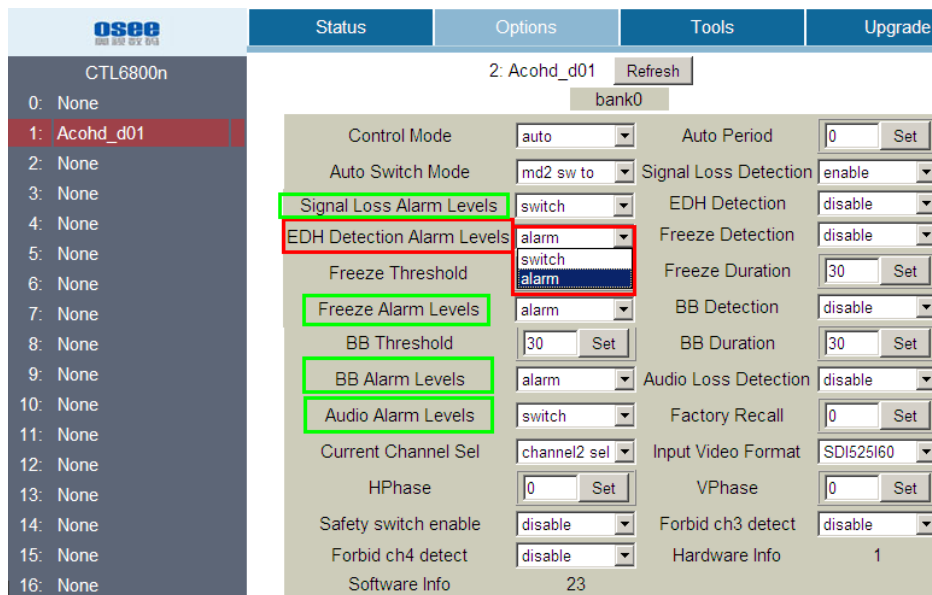


**Figure 5-7 The Options Page of ACOHD6800 Module**

**For Example:**

Define the alarm level for the alarm criteria, and take the definition of “EDH Detection Alarm Levels” for example.

Click the “EDH Detection Alarm Levels” selection frame in the red rectangle as shown in Figure 5-8, it will show the drop list for parameter items, select “alarm” for it, and click **Refresh** button to save the modification, then it will just alarm but not switchover when detecting the EDH error. The other alarm levels definition frames are labels in green rectangle as shown in Figure 5-8.



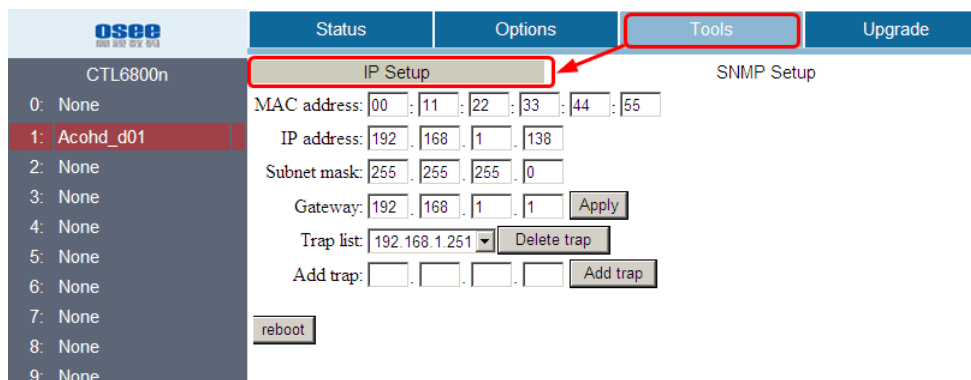
**Figure 5-8 Definition of Alarm Level**

## Warning

- ACOHD6800 module is not adaptive for the input signal format. It has only four kinds of Input Video Formats for selection: SDI525I60, SDI625I50, SDI1080I50, SDI1080I59.94. Make sure the format of the input signal must match the value of “Input Video Formats”, or the video screens will flash to prompt !

### ■ Tools

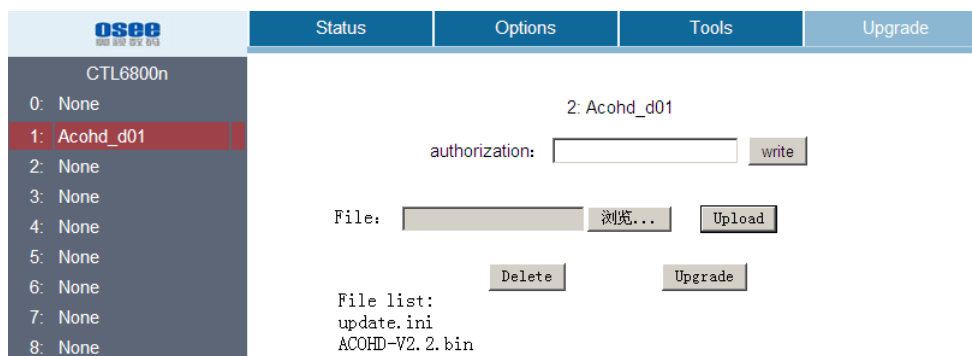
Click **Tools** tab to customize the IP information, such as MAC address, IP address, Subnet mask, Gateway and so on, as shown in Figure 5-9



**Figure 5-9 The Tools Page of ACOHD6800 Module**

### ■ Upgrade

Click **Upgrade** tab to do upgrading operations, as show in Figure 5-10.



**Figure 5-10 The Upgrade Page of ACOHD6800 Module**

Refer to "English manual for 6800N-FC control module " for details about the characteristic description of 6800N-FC.

## Chapter 6 Specifications

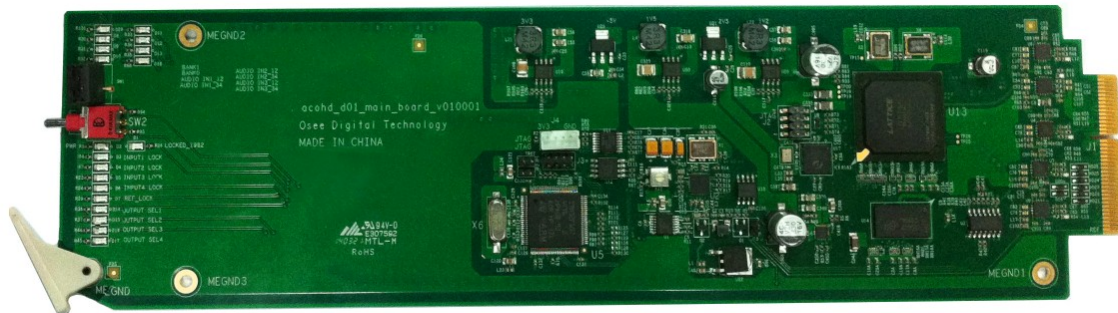
### 1. Product detailed information

Index	Specification	Values
Digital Video Input	Number of inputs	3 ordinary inputs(primary signal, secondary signal, third signal), 1 reference input(such as color stripe, test chart)
	Video Standard	SMPTE259m-C(270Mb/s,525/625) SD-SDI
		SMPTE292m(1.485,1.485/1.001Gb/s) HD-SDI
	Connector	BNC(IEC169-8)
	Impedance	75Ω
	Return Loss	SD-SDI: >18dB,5MHz to 270MHz
		HD-SDI: >15dB,270MHz to 1.5GHz
	Cable Length	SD-SDI:0~300mBelden1694A
HD-SDI: 0~100mBelden1694A		
Supported Format	SD-SDI: 525i60, 625i50	
	HD-SDI: 1080i50/59.94	
Digital Video Output	Number of outputs	1
	Video Standard	SMPTE259m-C(270Mb/s,525/625) SD-SDI
		SMPTE292m(1.485,1.485/1.001Gb/s) HD-SDI
	Connector	BNC(IEC169-8)
	Impedance	75Ω
	Return Loss	SD-SDI: >18dB,5MHz to 270MHz
		HD-SDI: >15dB,270MHz to 1.5Hz
	Output Level	800Mv ± 10%
DC Offset	0 ± 0.5V	
Rise and Fall Time	SD-SDI: <700ps	
	HD-SDI: <270ps	

Index	Specification	Values
	Overshoot	<10% of amplitude
	Jitter	<0.2 UI pk-pk
Reference Signal	Signal Format	analog composite synchronous signal and tri level sync signal
	Connector	BNC
	Impedance	75Ω
	Input Level	NTSC/PAL: 0.45V, -6dB~+6dB; tri level sync signal: ±300mV, -6dB~+6dB
	Return Loss	>35dB up to 5.75MHz
Operating Environment	Work Temperature	0° C~+50° C
	Work Humidity	10%~90%

## 2. Product Outline

The outline of ACOHD6800 is shown as in the following figures:



**Figure 6-1 Top View**

### Tips

- Specifications are subject to change without notice.

-----No Text Below-----



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FOR MORE INFORMATION PLEASE VISIT: <http://www.osee-dig.com/>  
OSEE TECHNOLOGY CO., LTD.  
No.22 Building, No.68 zone, Beiqing Road, Haidian District, Beijing, China  
Tel: (+86) 010-62434168, Fax: (+86) 010-62434169  
E-mail: [sales@osee-dig.com](mailto:sales@osee-dig.com)