VAC6840N

Video & Audio 2X1 Switcher

USER MANUAL

OSEE TECHNOLOGY CO., LTD.

Product Information

Model: VAC6840N Video & Audio 2X1 Switcher
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Company

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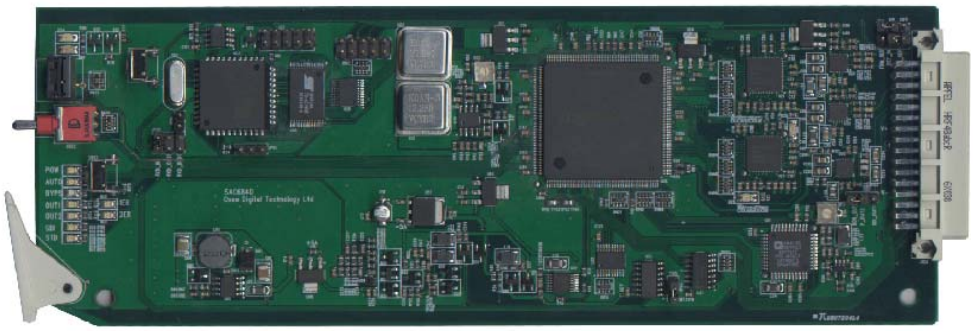
Chapter 1 Introduction

1.1 Product Overview

VAC6840N is an analog changeover. The changeover is performed by the relays on VAC6840N rear panel. Selected signal at the output is maintained when power failure. The input can be selected automatically or manually. Automatic signal selection is based on video signal presence and video level detection. An optional remote control panel can be chosen for manual control.

VAC6840N video & audio 2X1 switcher can be controlled by the switcher on the front panel.

The module can be installed in 6800N series frame.



Tab. 1-1 Description of VAC6840N Switcher

Module	Description
VAC6840N	2 channels analog composite video signal inputs, 2 channels analog stereo audio signal inputs; 1 channel analog composite video signal output, 1 channel analog audio signal output.

1.2 Features

The VAC6840N offers the following features:

☆ Support NTSC/PAL inputs

☆ Relay switching can maintain selected input on power loss

☆ Automatic mode based on video signal presence and video level detection

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.

1.3 Module Descriptions

1.3.1 6800-C2 Frame Back Panel Connector

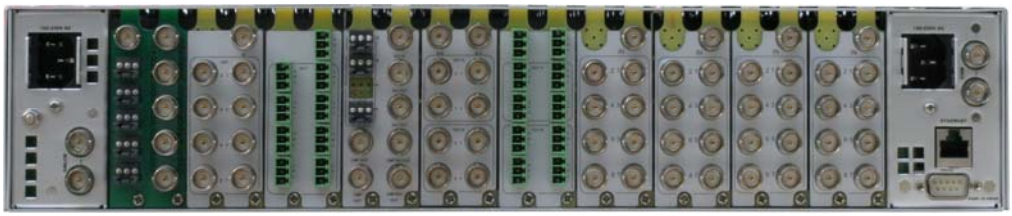


Fig.1-1 Back Connector of 6800-C2 frame

1.3.2 VAC6840N Module Back Connector

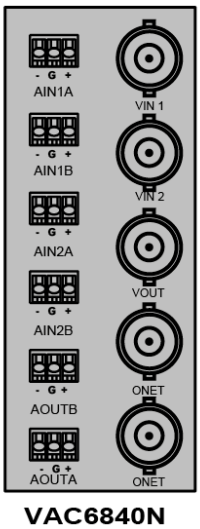


Fig.1-2 Back Connector of VAC6840N

Tab. 1-2 Description of VAC6840N Back Connector

Position	Description
AIN 1A	Analog audio signal input terminal 1A.
AIN 1B	Analog audio signal input terminal 1B.
AIN 2A	Analog audio signal input terminal 2A.
AIN 2B	Analog audio signal input terminal 2B.
AOUT A	Analog audio signal output terminal A.
AOUT B	Analog audio signal output terminal B.
VIN 1	Analog composite video signal input terminal 1.
VIN 2	Analog composite video signal input terminal 2.
VOUT	Analog composite video signal output terminal
ONET	Switch control signal input and output

1.3.3 Signal Flow

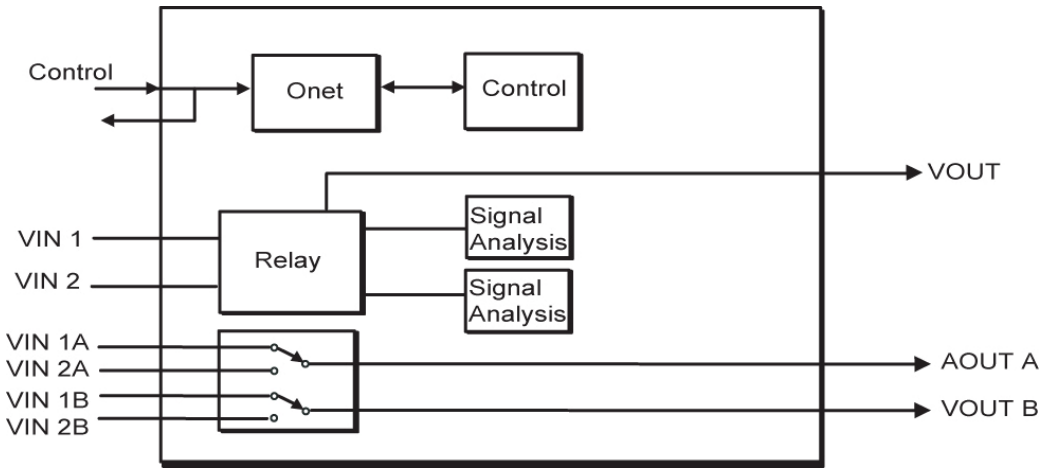


Fig. 1-3 Signal Flow of VAC6840N

Chapter 2 Installation

2.1 Maximum Power Ratings for Frame

The maximum power ratings that different types of frames can sustain are listed in the Table 2-1

Tab. 2-1 Maximum Power Consumption

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

2.2 Unpacking the Module

2.2.1 Preparing the Product for Installation

Contact your dealer right now if any items are missing.

Follow the procedures below before installing the module:

- Check the equipment for any invisible damage that may have occurred during transit.
- Confirm all the items listed on the packing list have been received.
- Remove all the packing material including electrostatic-resistant packing.
- Retain these packing for future use.

2.2.2 Check the Packing List

Tab. 2-2 Packed Components

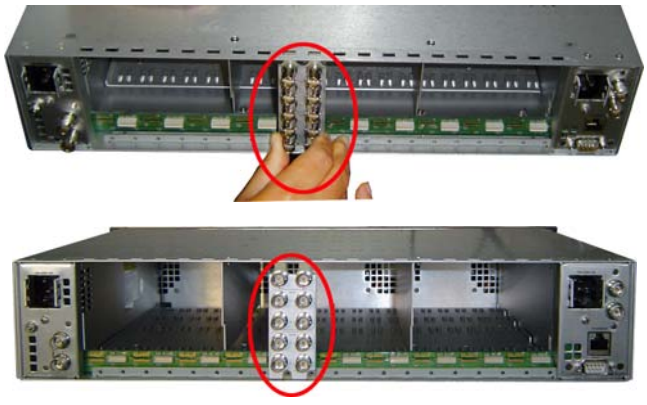
Model Name	Description
VAC6840N	VAC6840N module (1pc)

2.3 Installing the Module

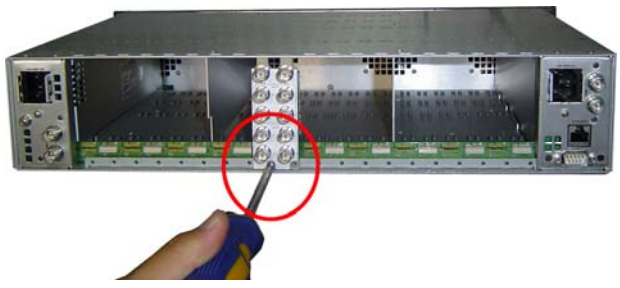
Caution：Static electricity may cause sensitive semiconductor out of order. Avoid installing or removing the module in the electrostatic-induced environment.

Follow the following steps to install the module:

Step 1



Step2



Step3

Step 4

Step5

Fig. 2-1 Installation of 2U Frame of 6800N Series

- ✓ Locate the position for back connector and insert the back connector
- ✓ Fasten the screw to fix the back connector.
- ✓ Locate the slot for module.
- ✓ Get the module installed in the slot, push the module slightly along the slot, press module again to confirm that the module is installed firmly and then close swivel handle.
- ✓ Install the front panel.

2.4 Making the Connections

Please connect signals based on Fig. 1-2.

2.5 Removing the Module

Follow the following steps to remove VAC6840N module:

1. Open the front part of frame.
2. Open the swivel handle to the full.

3. First make sure the frame stands firmly, and then pull the module gently along the slot till out of frame.
4. Install the front panel.

Chapter 3 Operation and Control

3.1 Switches and Key

Refer to **Figure 3-1** or **Table 3-1**（Bank）to complete control.

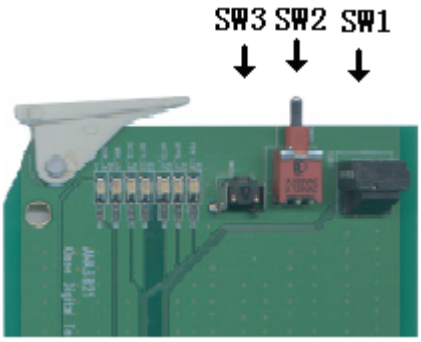


Fig. 3-1 Switches and Key

3.2 Bank Selection

The SW1 function is set to default. Please refer to **Tab. 3-1**

1. SW1 Mode Selection

   SW1 is a 16-position rotary switch, which is used to select the specific setting.
   The selection range is: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F.

2. SW2 Mode Selection

   SW2 is a toggle switch, which is used to decide the concrete figure of the setting made by SW1.
   SW2 is a 3-position toggle switch, used to decide the concrete figure of the setting made by SW1. To keep SW2 at the position of "UP" or "DOWN", the continuous adjustment can be achieved.

3. SW3

   The key of SW3 is not valid.

Tab. 3-1 Bank SW1 Function Setting

SW1 Position	**Function**	**Options** (The position of toggling SW2: SW2 is toggled down.**)**	**Default**
0	Select mode	✓ **0 :** 625 ✓ **1 :** 525 ✓ **2 :** AUTO SELECT (auto recognition) **Notes:** The modes above will cycle between: 0, 1 and 2, when SW2 is toggled repeatedly.	*AUTO SELECT
1	Control mode	✓ **0:** BYPASS mode （when it is selected , BYPASS LED lamp in the module will also light in green）	*AUTO

SW1 Position	Function	Options (The position of toggling SW2: SW2 is toggled down.)	Default
		✓ **1**：AUTO mode （when it is selected , AUTO LED lamp in the module will also light in green） ✓ **2**：MANUAL mode **Notes:** * When the lamps of BYPASS and AUTO are all off, the control mode changes to MANUAL mode. *The modes above will cycle between: 0, 1 and 2, when SW2 is toggled repeatedly. *When "AUTO mode" is selected, the operation of AUTO SELECT function can be based on the "ENABLE" set of "Video loss switch" or "Low level alarm" or "High level alarm".	
2	Select output mode	✓ **0**： Select input source 1 as output ✓ **1**： Select input source 2 as output **Notes:** * When the LED control mode is in auto mode, the input source can not be selected by manual. *The modes above will cycle between: 0 and 1, when SW2 is toggled repeatedly.	*SOURCE 1
3	Auto switching mode	✓ **0**：**(**SW2 is toggled down.**)** When one selected input source fails (E.g. 1), it will automatically switch to select the other normal input source (E.g. 2). Even though the original input source 1 returns to normal, the source 2 will retain. ✓ **1**：**(**SW2 is toggled up.) When one selected input source fails (E.g. 1), it will automatically switch to select the other normal input source (E.g. 2). Once the original input source 1 returns to normal, it will immediately switch back to select source 1, even though the source 2 works well or is just being selected.	
4	Video loss switch	✓ 0：DISABLE **(**SW2 is toggled down.**)**	*ENABLE

SW1 Position	Function	Options (The position of toggling SW2: SW2 is toggled down.)	Default
		✓ 1：ENABLE (SW2 is toggled up.)	
5	Mode auto select	✓ 0：DISABLE (SW2 is toggled down.) ✓ 1：ENABLE (SW2 is toggled up.)	
6	Low level alarm	✓ 0：DISABLE (SW2 is toggled down.) ✓ 1：ENABLE (SW2 is toggled up.)	
7	High level alarm	✓ 0：DISABLE (SW2 is toggled down.) ✓ 1：ENABLE (SW2 is toggled up.)	
8	Reserve		
9	Reserve		
A	Reserve		
B	Reserve		
C	Reserve		
D	Reserve		
E	Reserve		
F	default	Down/up: set all into default	

Note the following when setting parameters:

- Judge the validity of the input signal and the reference signal by checking the ERROR.
- To keep SW2 at the position of "UP" or "DOWN", the continuous adjustment can be achieved.
- To return back to default status**:** rotate the SW1 to "0"; toggle the SW2 UP.
- When the video output signal changes, the audio output signal, which adapts to the video output signal, will also change.

3.3 Description of LED Indicator

Tab.3-2 Description of LED Indicator

LED Indicator	Color	Description
POWER	Green	On: Power is supplied.
BY PASS	Green	On: work in BYPASS mode (bypass when power-down). Off: Not work in BYPASS mode.
AUTO	Green	On: work in AUTO mode. Off: Not work in AUTO mode.
OUT1	Green	On: choose the channel 1 input signal as output Off: not choose the channel 1 input signal as output
OUT2	Green	On: choose the channel 2 input signal as output Off: not choose the channel 2 input signal as output
1ER	Red	On: the channel 1 input signal does not work in normal; Off: the channel 1 input signal works in normal.
2ER	Red	On: the channel 2 input signal does not work in normal; Off: the channel 2 input signal works in normal.

Chapter 4 Specifications

4.1 Analog Composite Video

Table 4-1 Analog Composite Video Specifications

Item	Parameter
Standards	NTSC, PAL-B
Connector	BNC（ IEC 169-8）
Impedance	75Ω
Return Loss	>40 dB to 5.75 MHz
Quantization	12 bits
Frequency response	±0.15 dB to 5.5 MHz
Differential Gain	<1%（typical value<0.5%）
Differential Phase	<1°（typical value <0.5°）
DC offset	±5 mV
Chrominance Luminance Delay	<1.5 ns
Chrominance Luminance Gain	±1.5%
Output Impedance	75Ω
K factor	<0.5%
Line Time Distortion	0.1%
C/N	>60 dB

4.2 Analog Audio

Tab. 4-2 Analog Audio Input Specifications

Item	Parameter
connector	3-pin audio connector
Standard	Electronic, balanced
Output level range	+18dBu to +28dBu
Maximum output level	0dBFS = +28dBu
Impedance	66Ω
THD+N	>85 dB @ 1 kHz， -1dBFS = 23dBu
Crosstalk	>95 dB，20 Hz to 20 kHz
Frequency response	<±0.04dB @ 0dBFS, 20 Hz to 20 kHz
C/N	>100 dB @ 0dBFS

4.3 Power consumption

Item	Parameter
Power:	2.4W
Positive rail:	350 mA
Negative rail:	20 mA

Note: Specifications are subject to change without notice

Chapter 5 Warranty for osee product

5.1 What the warranty covers:

osee warrants its products to be free from defects in material and workmanship during the warranty period of two years from purchase date. If a product proves to be defective in material or workmanship during the warranty period, osee will, at its sole option, repair or replace the product with a similar product. The replacement unit will be covered by the balance of the time remaining on the customer's original limited warranty.

No sales personnel of the seller or any other person is authorized to make any warranties other than those described above, or to extend the duration of any warranties on behalf of osee, beyond the time period describe above.

This warranty is extended to the first consumer only, and proof of purchase is necessary to honor the warranty. If there is no proof of purchase provided with a warranty claim, osee reserves the right not to honor the warranty set forth above. Therefore, labor and parts may be charged to the consumer.

5.2 What the warranty does not cover:

1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
   - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product
   - Repair or attempted repair by anyone not authorized by osee
   - Any damage of the product due to shipment.
   - Removal or installation of the product.
   - Causes external to the product, such as electric power fluctuations or failure.
   - Use of supplies or parts not meeting osee product's specifications.
   - Normal wear and tear.
   - Any other cause which does not relate to a product defect.