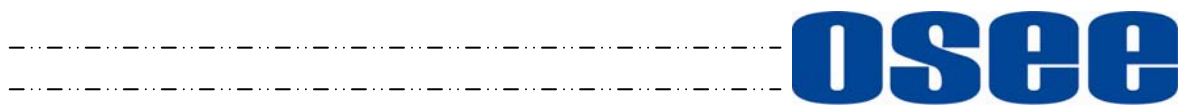


SCM6880N Video and Embedded
Audio Monitor

USER MANUAL



Product Information

Model: SCM6880N Video and Embedded Audio Monitor
Version: V010002
Release Date: November 25th, 2009

Company

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Chapter 1 Introduction

Overview

The SCM6880N is a multi-function audio and video monitoring card. It can do SD-SDI reclocking, acts as a SD-SDI to composite video D/A converter and has audio de-embedding function. It supports up to four CVBS outputs and four analog audio outputs with four channels audio meter display.

The modules can be installed in 6800N series frame.

Features

The SCM6880N offers the following features:

- ✓ One SD-SDI input
- ✓ Up to 4 reclocked SD-SDI outputs
- ✓ SDI video D/A, and up to 4 CVBS outputs
- ✓ Audio-demuxing and supporting up to 4 analog audio outputs
- ✓ 4 channels audio meter
- ✓ EDH, freeze frame and black burst detect
- ✓ Audio loss and audio overload detect
- ✓ Audio DBN error, parity error, checksum error detect
- ✓ Local or remote control and monitoring

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.

Module Descriptions

The Front Part of Module

Figure 1-1 shows the boards of SCM6880N



Fig. 1-1 the Board of SCM6880N

Back Connector



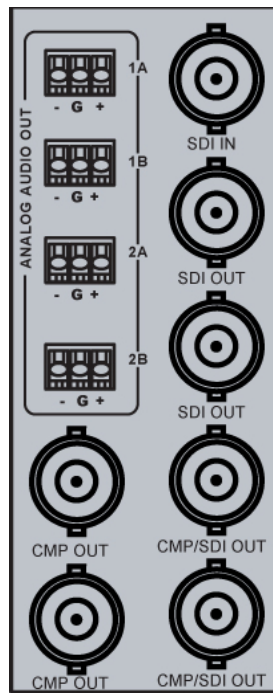


Fig.1-2 Back Connector of SCM6880N

Tab. 1-1 description of SCM6880N Back Connector

位置	描述
CMP OUT	Analog Composite output
SDI IN	SDI input
SDI OUT	SDI output
CMP/SDI OUT	Analog Composite or reclocked SDI output
1A	Analog audio output, channel 1A
1B	Analog audio output, channel 1B
2A	Analog audio output, channel 2A
2B	Analog audio output, channel 2B

Signal Flow

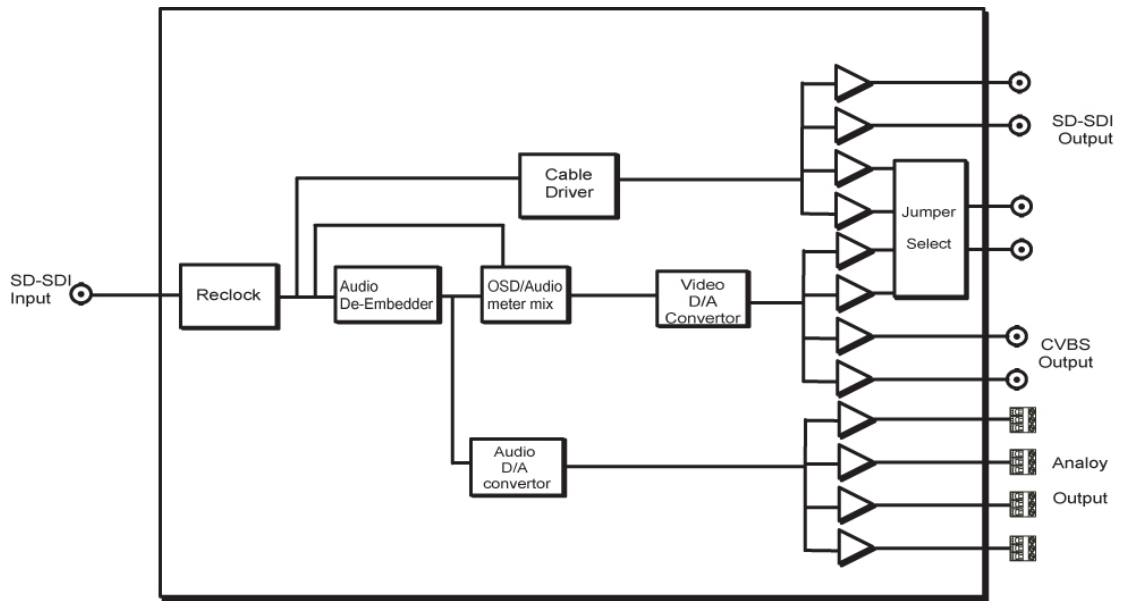


Fig. 1-3 Signal Flow of SCM6880N

Chapter 2 Installation

Overview

The power consumption for module and the maximum power ratings that frame can sustain have to be confirmed before installing the module.

In this chapter, the following topics on installation process for SCM6880N are discussed below:

- Unpacking the module
- Setting Jumper
- Installing the module
- Making the connections
- Removing the module

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-1U	40W	Yes	4
6800N-2U	60W	Yes	10

Unpacking the Module

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.

Check the Packing List

Tab. 2-2 Packed Components

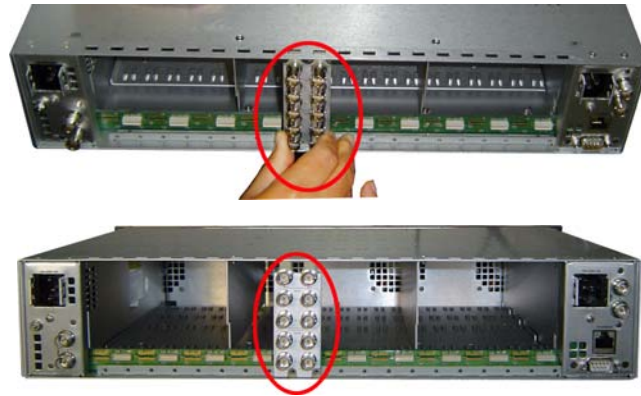
Model Name	Description
SCM6880N	SCM6880N module (1pc); back connector (1pc), and other accessories

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.

Making the Connections

Please connect signals based on Fig. 1-2.

Removing the Module

Follow the following steps to remove SCM6880N 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.

Setting Jumper

There exist four 3-pin jumpers, and the following table gives their definition.

Tab. 2-3 Description of SCM6880N Jumpers

Item	Description
JP01~12 (used to adjust audio gain)	The module provides 4-channel analog audio outputs. The jumpers are divided into four groups and each group adjust the gain of one analog audio output, the range covers +16~+28dB, the default setting is +24dB.
JP15, JP16 (choose which signal will be out)	COMP/SDI When setting COMP, the corresponding BNC is connected with analog composite video signal. When setting SDI OUT, the corresponding BNC is connected with SDI signal.
JP17, JP18	AES/COMP. You must set at COMP (Please don't change the default setting).

LED Indicator

Table 2-4 LED Indicator Function

Item	Description
POWER	On: Power is supplied.
BS0、BS1	On or off indicate different Bank
WARNING	On: The "Warn LED" is lighted only when the input signal is lost.
525	On: the current video format setting is 525, or the input video is 625 signal but setting at AUTO.
AUTO	On: the current video format is setting at AUTO.
625	On: the current video format setting is 625, or the input video is 525 signal but setting at AUTO.
A1 PRES	On: In SDI input, there is audio information about Group 1.
A2 PRES	On: In SDI input, there is audio information about Group 2.
A3 PRES	On: In SDI input, there is audio information about Group 3.
A4 PRES	On: In SDI input, there is audio information about Group 4.
TSG	On: there output a test signal
EDH	On: In SDI input, there is information about EDH without error. Flickering: In SDI input, there is information about EDH with error. Off: In SDI input, there is no information about EDH.

Table 2-5 Description of BS

BS0	BS1	Bank Number
off	off	Bank 0
on	off	Bank 1
off	on	Bank 2
on	on	Bank 3

Chapter 3 Operation and Control

Switches and key

Refer to **Figure 3-1** or **Table 3-1** (Bank 0) or **Table 3-2** (Bank 1) or **Table 3-3** (Bank 2) or **Table 3-4** (Bank 3) to complete control

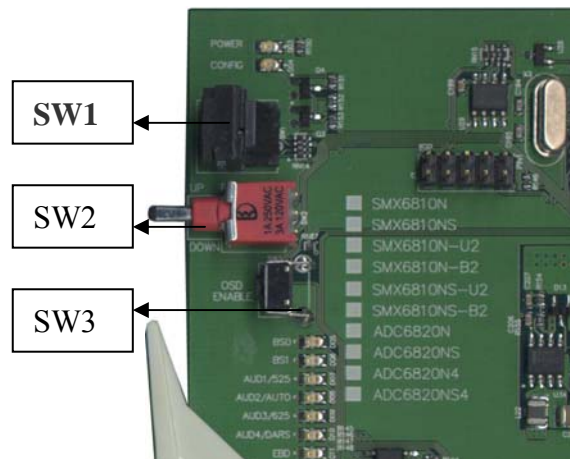


Fig. 3-1 Switches and key

Rotate SW1 at the position of 0, and select the proper Bank by SW2.

Bank Selection

The SW1 has four Banks Rotate the SW1 at the position of “0”. The position of “0” is always used to select Bank. Turn SW2 up or down to select Bank.

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

Press the SW3 to activate OSD.

Tab. 3-1 Bank 0 Function Setting

SW1 Position	Function	OSD Text	Default
0	Select bank	0:0 Bank Select Bank 0/1/2/3	Bank 0
1	Select SDI video standard	0:1 SDI Vid Std 525/625/AUTO	AUTO
2	Select video standard (Only for 525)	0:2 Out Vid Std NTSC/PAL-M	NTSC
3	Video setup Only for 525	0:3 Video Setup On/Off	On
4	Chroma Control	0:4 Chroma Enable/Disable	enable
5	Demux Error Control	0:5 DemuxErr Ctl Mute/Pass	Mute
6	V-bit Mute	0:6 V-bit Mute Enable/Disable	Enable
7	Test signal select	0:7 Test signal On/Off	Off
8~E	Reserve		
F	Restore default	0:F Recall Def Restore?/Restored	

Tab. 3-2 Bank 1 Function Setting

SW1 Position	Function	OSD Text	Default
0	Select bank	1:0 Bank Select Bank 0/1/2/3	Bank 0
1	Out channel 1A select (27options in total)	1:1 Out Ch1A Sel CH 1, CH 2, CH 3, CH 4, CH 5, CH 6, CH 7, CH 8, CH 9, CH 10, CH 11, CH 12, CH 13, CH 14, CH 15, CH 16, 1&2 sum, 3&4 sum, 5&6 sum, 7&8 sum, 9&10 sum, 11&12 sum, 13&14 sum, 15&16 sum, tone 1, tone 2, mute	CH 1
2	Out channel 1B select (27options in total)	1:2 Out Ch1B Sel (The same option as channel 1A)	CH 2
3	Out channel 2A select (27options in total)	1:3 Out Ch2A Sel (The same option as channel 1A)	CH 3

SW1 Position	Function	OSD Text	Default
4	Out channel 2B select (27options in total)	1:4 Out Ch2B Sel (The same option as channel 1A)	CH 4
5	Out channel 1A level	1:5 Out Ch1A Lev -30dB~0 dB (1 dB step)	0 dB
6	Out channel 1B level	1:6 Out Ch1B Lev -30dB~0 dB (1 dB step)	0 dB
7	Out channel 2A level	1:7 Out Ch2A Lev -30dB~0 dB (1 dB step)	0 dB
8	Out channel 2B level	1:8 Out Ch2B Lev -30dB~0 dB (1 dB step)	0 dB
9	Out channel 1A invert	1:9 Out Ch1A Inv On/Off	Off
A	Out channel 1B invert	1:A Out Ch1B Inv On/Off	Off
B	Out channel 2A invert	1:B Out Ch2A Inv On/Off	Off
C	Out channel 2B invert	1:C Out Ch2B Inv On/Off	Off
D~F	Reserve		

Tab. 3-3 Bank 2 Function Setting

SW1 Position	Function	OSD Text	Default
0	Select Bank	2:0 Bank Select Bank 0/1/2/3	Bank 0
1	Meter1 type select	2:1 Meter1 Type OFF/VU/PPM/VU+PPM	VU+PPM
2	Meter2 type select	2:2 Meter2 Type OFF/VU/PPM/VU+PPM	VU+PPM
3	Meter1 horizontal position	2:3 Meter1 H Pos 1 ~ 168	7
4	Meter2 horizontal position	2:4 Meter2 H Pos 6 ~ 174	168
5	Test level select	2:5 Test Level -18dB / -20dB	-18dB
6~E	Reserve		
F	Device information	2:F Device SCM 6880n	

Tab. 3-3 Bank 3 Function Setting

SW1 Position	Function	OSD Text	Default
0	Select Bank	3:0 Bank Select Bank 0/1/2/3	Bank 0
1	Black threshold	3:1 Black Thd 1 ~ 255	30
2	Freeze delay	3:2 Freeze Delay 1 ~ 255	30
3	Freeze threshold	3:3 Freeze Thd 1 ~ 255	30
4	No audio delay	3:4 No Aud Delay 1 ~ 255	30
5	No audio threshold	3:5 No Aud Thd -72dB/-66dB/-60dB/-54dB /-48dB	-60dB
6	Input Video standard	3:6 Vid Std Loss/525/625	Read Only
7	EDH Packet status	3:7 EDH status No EDH/EDH Detected/ EDH Err	Read Only
8	EDH error count (up or down SW2 to reset the count)	3:8 EDH Err Num 0~65535	Read only
9	Detect Black Field	3:9 Black Field Detected/No detected	Read only
A	Detect Freeze Frame	3:A Freeze Frame Detected/No detected	Read only
B	Audio Group Status	3:B Aud Group Gn: normal --: data lost	Read Only e.g. G1--G3--
C	DBN Error	3:C DBN Err XX: error Gn: normal --: data lost	Read Only e.g. XXG2--G4
D	Checksum Error	3:D Checksum Err XX: error Gn: normal --: data lost	Read only e.g. XXG2--G4
E	Parity Error	3:E Parity Err XX: error Gn: normal --: data lost	Read only e.g. G1G2--G4

SW1 Position	Function	OSD Text	Default
F	Audio Status	3:F Aud Status V: overload O: ok L: data lost	Read only e.g. VOLL

Chapter 4 Specifications

In this chapter, the specifications of SCM6800N on the following subjects are introduced:

- ✓ SDI Video Input
- ✓ SDI Video Output
- ✓ Analog Composite Video Output
- ✓ Analog Audio Output

SDI Video Input

Table 4-1 SDI Video Input Specifications

Item	Parameter
Standards	SMPTE 259M-C, 270 Mbps, 525/625 SDI Component
Impedance	75Ω termination
Return Loss	>18dB to 360MHz
Connector	BNC (IEC169-8)
Equalization	Auto to 30dB@270 Mbps

SDI Video Output

Table 4-2 SDI Video Output Specifications

Item	Parameter
Standards	SMPTE 259M-C, 270 Mbps, 525/625 SDI component
Connector	BNC (IEC169-8)
Impedance	75Ω
Return Loss	>18dB to 270MHz
Signal Level	800 mV ± 10%
DC Offset	0 V ± 0.5 V
Rise/Fall Time	400 to 1500ps (20% to 80% of amplitude)
Overshoot	<10%
Jitter	<0.2 UI (740ps) Peak

Analog Composite Video Output

Table 4-3 Analog Composite Video Output Specifications

Item	Parameter
Standards	NTSC, PAL or PAL-M
Level	1Vp-p \pm 3dB
Impedance	75 Ω
Return Loss	>40 dB to 5 MHz
DC Offset	0V \pm 0.05 V
Frequency Response	\pm 0.2 dB to 5 MHz
Differential Gain	<1%
Differential Phase	<1.5 $^{\circ}$
Signal to noise	75dB to 5.75MHz

Analog Audio Output

Tab. 4-4 Analog Audio Output Specifications

Item	Parameter
Standard	Electronic, balanced
connector	3-pin connector (male)
Level range	+16 dBu to +28 dBu
Maximum level	0 dBFS = +28 dBu
Impedance	66 Ω
THD+N	<-85 dB@ 1 kHz, -1 dBFS = +23 dBu
Cross talk	<-95 dB, 20 Hz to 20 kHz, typical
SNR	>100 dB @ 0dBFS

Note: Specifications are subject to change without notice

Warranty for osee product

What the warranty covers:

osee warrants its products to be free from defects in material and workmanship during the warranty period of two year 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.

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.