SRG6850N Analog and SDI Black Burst /DARS Generator

USER MANUAL

osee

OSEE TECHNOLOGY CO., LTD.

Product Information

Model: SRG6850N Analog and SDI Black Burst /DARS Generator
Version: V010002
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Company

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Chapter 1 Introduction

1.1 Product Overview

SRG6850N is an analog and SDI black burst/DARS generator. It has up to 8 analog black burst outputs and up to 2 selectable SDI black burst outputs. The SDI signal can be embedded with 24-bit test audio signal and output with DARS synchronizing signal.

The module can be installed in 6800N series frame.

Tab. 1-1 Description of SRG6850N Switcher

Module	Description
SRG6850N	8 analog black burst outputs; 2 selectable SDI black burst outputs, DARS output; REF input.

1.2 Features

The SRG6850N offers the following features:

☆　High stable analog and SDI black burst generating

☆　DARS output and AES/EBU TONE

☆　Embedded test audio supporting

☆　Infinite phasing

☆　Color Bar generating

☆　Supporting reference signal

☆　SRG6850N can generate high stable black burst with its internal TXCO.

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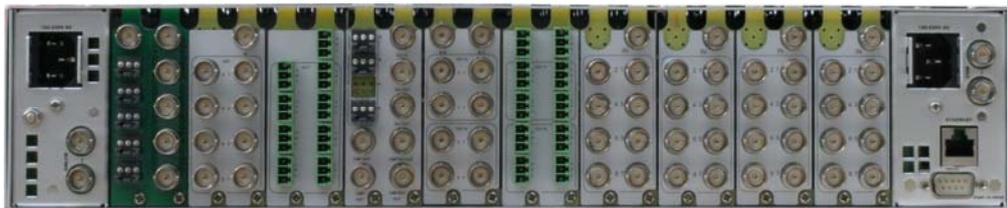
Fig.1-1 Back Connector of 6800-C2 frame

1.3.2 SRG6850N Module Back Connector
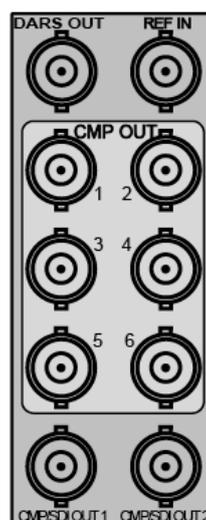
Fig.1-2 Back Connector of SRG6850N

Tab. 1-2 Description of SRG6850N Back Connector

Position	Description
REF IN	reference signal input terminal
DARS OUT	DARS signal output terminal
CMP OUT1	Analog synchronizing signal output terminal 1
CMP OUT2	Analog black burst signal output terminal 2
CMP OUT3	Analog black burst signal output terminal 3
CMP OUT4	Analog black burst signal output terminal 4
CMP OUT5	Analog black burst signal output terminal 5
CMP OUT6	Analog black burst signal output terminal 6
CMP/SDI OUT1	Analog black burst signal or SDI synchronizing signal output terminal 1
CMP/SDI OUT2	Analog black burst signal or SDI black burst signal output terminal 2

1.3.3 Signal Flow
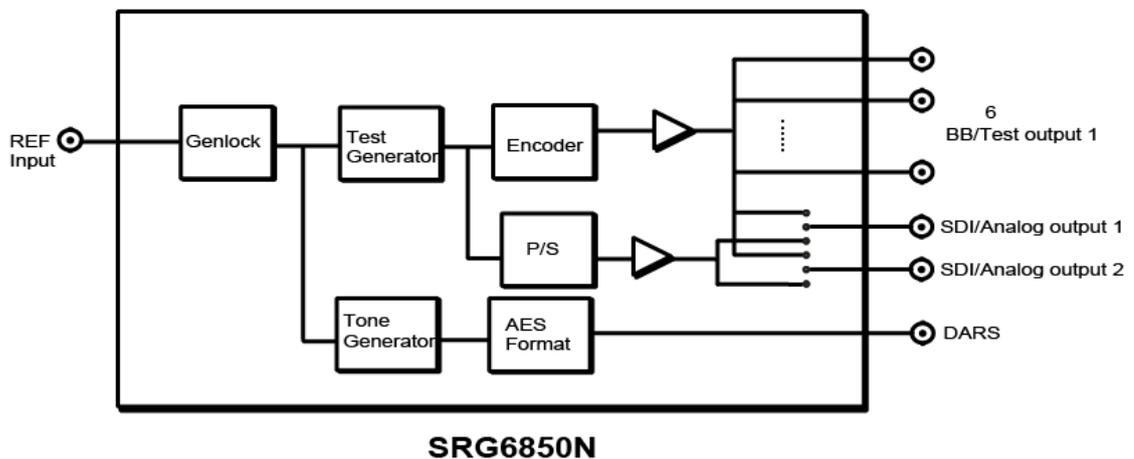
Fig. 1-3 Signal Flow of SRG6850N

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-C1	40W	Yes	4
6800N-C2	60W	Yes	10

2.2 Unpacking the Module

2.2.1 Check the Packing List

Tab. 2-2 Packed Components

Model Name	Description
SRG6850N	SRG6850N module (1pc)

2.2.2 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 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.

2.3 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 next steps to install the module:

Step 1: Locate the position for back connector and insert the back connector.
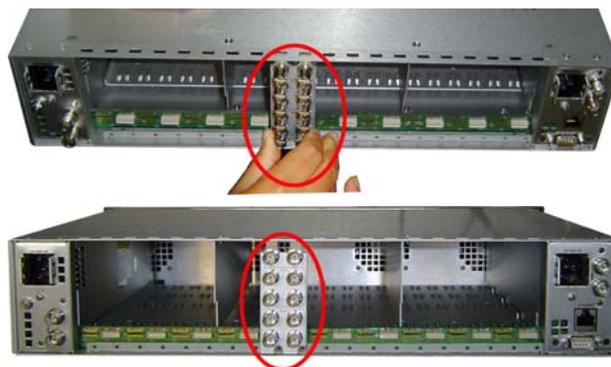
Step2: Fasten the screws to fix the back connector.

Step3: Locate the slot for module.

Step 4: 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.

Step5: Install the front panel.

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

2.4 Making the Connections

Please connect signals based on Fig. 1-2.

2.5 Removing the Module

Follow the following steps to remove ADC6800N/ADS6800N module:

1. Open the front panel.
2. Press the swivel handle.

3. First make sure that the frame stands firmly, and then pull gently the module along the slot 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.
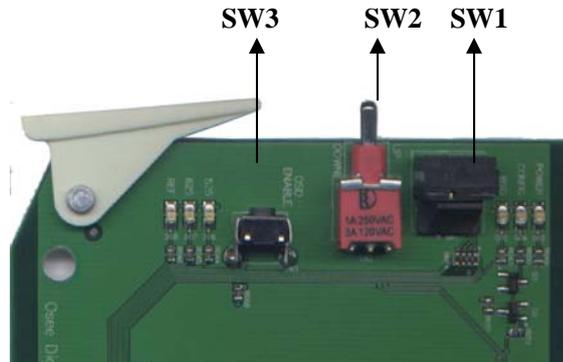
Fig. 3-1 Switches and Key

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

   Press the SW3 to activate OSD.

3.3 Jump Setting
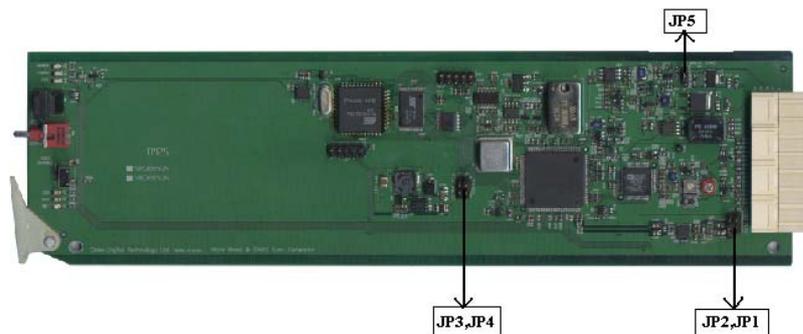
Jp1，JP2：

When ANALOGL is selected, CMP/SDI OUT outputs CMP signal.

When DIGITAL is selected, CMP/SDI OUT outputs SDI signal.

Jp3： Please remain the default setting: RMT LOCAL.

JP4： Select NTSC/PAL system. The default setting is PAL system.

Jp5： GNLCK TERM. Select ON.

Tab. 3-1 SW1 Function Setting

SW1 Position	Function	OSD Text	Default
0	H-phase setting	0:0 H Phase 0 ~ 63.963us(for 625) 0 ~ 63.518us(for 525)	0
1	V-phase setting	0:1 V-phase 0 ~ 624 line (for 625) 0 ~ 524 line (for 525)	0
2	Fine Phase setting	0:2 Fine Phase 0 ~ 130	0
3	SC-Phase setting	0:3 SCH OFFSET 0/90/180/270 for 625 0/180 for 525	0
4	Video test signal output	0:4 Test Signal Black/Color Bar/Mod Ramp/Ramp	Black
5	Audio channel 1a select	0:5 Aud Ch1A Sel Tone1/2/3/4/Mute	Tone 1
6	Audio channel 1b select	0:6 Aud Ch1B Sel Tone1/2/3/4/Mute	Tone 2
7	Audio channel 2a select	0:7 Aud Ch2A Sel Tone1/2/3/4/Mute	Tone 3
8	Audio channel 2b select	0:8 Aud Ch2B Sel Tone1/2/3/4/Mute	Tone 4
9	DARS silence	0:9 DARS Silence Silence/DARS	Silence
A	Audio Embedding	0:A Audio Embed enable /disable	Enable
B	Audio group select	0:B Aud Group Group1/2/3/4	Group 1
C		0:C Sync Mode Genlock / stand alone	Read only
D		0:D Video Std 625 / 525	Read only

SW1 Position	Function	OSD Text	Default
E		0:E Device Srg6850n	Read only
F		0:F Recall Def Restroe ? / Restroed	

Note the following when setting parameters:

➢ To keep SW2 at the position of "UP" or "DOWN", the continuous adjustment can be achieved.

3.4 Description of LED Indicator

Tab.3-2 Description of LED Indicator

LED Indicator	Color	Description
POWER	Green	On: Power is supplied.
CONFIG	Yellow	On: Initialize the module
BS0	Green	Reserve
525	Green	On: Output PAL system
625	Green	On: Output NTSC system
REF	Green	On: there is external synchronizing signal input.

Chapter 4 Specifications

4.1 Analog Composite Output

Table 4-1 Analog Composite Output Specifications

Item	Parameter
Signal Format	143Mb/s（NTSC Composite）, 177 Mb/s （PAL Composite）
Connector	BNC （ IEC 169-8）
Output Number	6
Impedance	75Ω
Return Loss	>40 dB to 5.75 MHz
Quantization	12 bits
DC offset	0 V ± 0.0 5 V

4.2 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)
Output Number	2
Impedance	75Ω
Resolution	10-bit
Return Loss	>18dB to 270 M
Signal amplitude	800 mV ± 10%
DC Offset	0 V ± 0.5 V
Raise/Fall Time	400-700pS (20% to 80% of amplitude）
Overshoot	< 10% of amplitude (all outputs terminated)

4.3 Reference input

Table 4-3 Ref Input Specifications

Item	Parameter
Signal Format	Analog color bar or analog black burst
Connector	BNC (IEC169-8)
Impedance	75 Ω

4.4 DARS Output

Table 4-4 DARS Output Specifications

Item	Parameter
Output	1 channel mute or Tone
Connector	BNC (IEC169-8)
Tone frequency	1KHz or 2KHz selectable; left and right audio channel can be set independently

4.5 Phasing

Item	Parameter
Range Infinite	1 frame
Resolution	0.5ns

4.6 Master crystal stability

Item	Parameter
Initial	2 PPM
Vs. Time	2 PPM/Year
Vs. Temperature	2 PPM, 0°C to +50°C

4.7 Power consumption

Item	Parameter
Power:	2.4W
Positive rail:	330mA
Negative rail:	35mA

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.