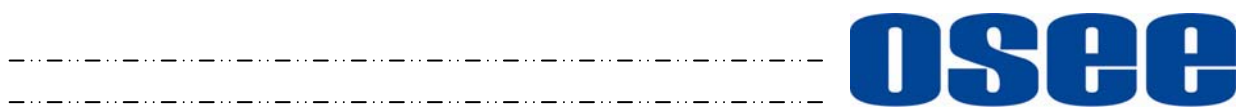


**HDA6801N / HRA6801N**  
**HD/SD-SDI Distribution Amplifier**

**USER MANUAL**





## Product Information

**Model:** HDA6801N: HD/SD-SDI Equalizing Distribution Amplifier 1x8  
HRA6801N: HD/SD-SDI Reclocked Distribution Amplifier 1x8  
**Version:** V010001  
**Release Date:** November 9th, 2010

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## Company

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## Chapter 1 Introduction

### Overview

Both of the HDA6801N and HRA6801N are HD/SD-SDI video distribution amplifiers.

The HDA6801N is a DA with equalization, while the HRA6801N is a reclocked DA with equalization.

Both of the HDA6801N and HRA6801N support one channel SDI input, 8 channels of SDI outputs.

The module can be installed in 6800 series frame.

### Features

HDA6801N and HRA6801N offer the following features:

- ✓ One HD/SD-SDI input, eight outputs
- ✓ Video input with auto-detect and input status feedback (Applicable to HRA6801N only)
- ✓ Automatic cable equalization
- ✓ Reclocking function (Applicable to HRA6801 only)

### 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

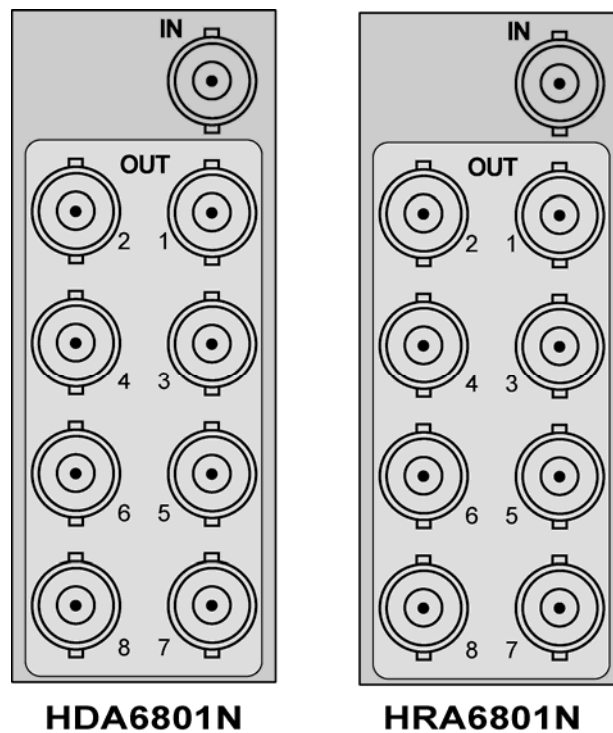
### The Module

Figure 1-1 shows the HDA6801N and HRA6801N board



**Fig. 1-1** the HDA6801N and HRA6801N board

### Back Connector



**Fig.1-2** Back Connectors of HDA6801N and HRA6801N

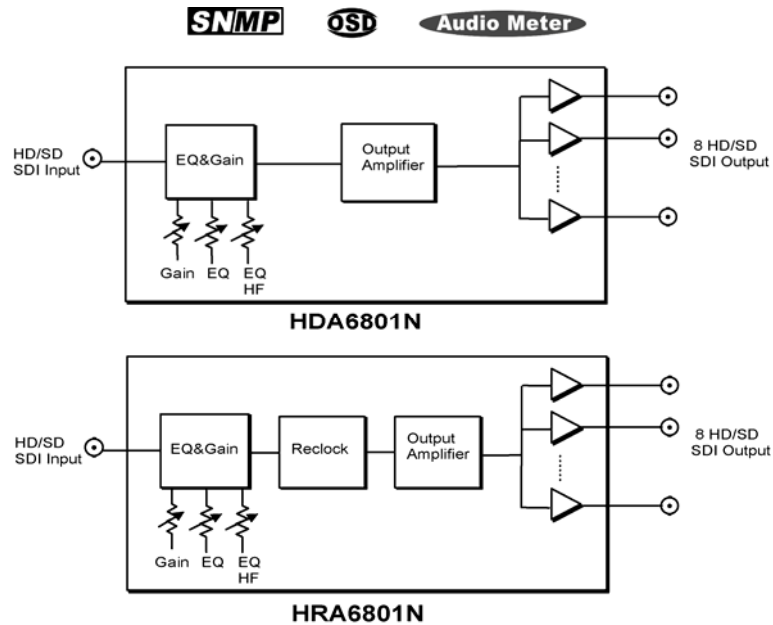
**Tab. 1-1** Description of HDA6801N Back Connector

Item	Description
IN	HD/SD SDI input: input the SDI signal with embedded audio
1~8	HD/SD SDI output: output the HD/SD SDI signal with equalization

**Tab. 1-2** Description of HRA6801N Back Connector

Item	Description
IN	HD/SD SDI input: input the HD/SD SDI signal with embedded audio
1~8	HD/SD SDI output: output the HD/SD SDI signal with equalization and reclocking

**Signal Flow**



**Fig. 1-3** Signal Flows of HDA6801N and HRA6801N

## 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 HDA6801N and HRA6801N are discussed below:

- Unpacking the module
- 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

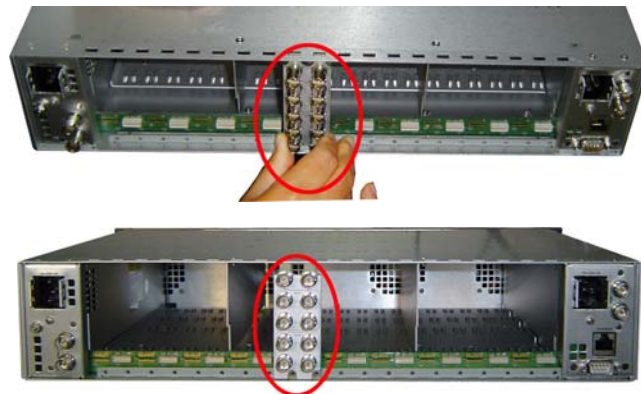
Model Name	Description
HDA6801N/HRA6801N	HDA6801N / HRA6801N module (1pc); back connector (1pc), and other accessories

## Installing the Module

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

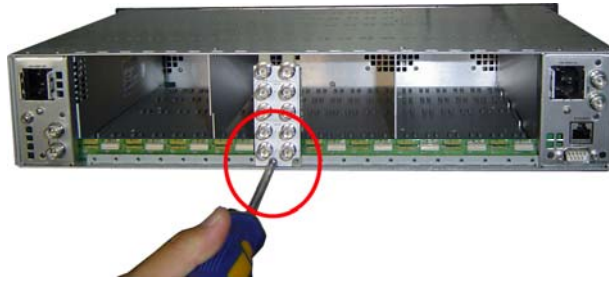
Follow the following steps to install the module:

### 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 HDA6801N / HRA6801N 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

### LED Indicator

**Table 3-1** Description of LED indicators

<b>Item</b>	Description
POWER (green)	On: Power is supplied normally
INERR (red)	On: no signal input or error happens

## Chapter 4 Specifications

In this chapter, the specifications in the following subjects are introduced:

- ✓ SDI Video Input
- ✓ SDI Video Output
- ✓ Power consumption

### SDI Video Input

**Table 4-1** SDI Video Input Specifications

Item	Parameter
Signal type	HD-SDI, SD-SDI
Connector	BNC( IEC 169-8)
Impedance	75Ω
Return loss	>18 dB 5 MHz to 1.5 GHz
Cable equalization	SD-SDI: 0-300 m Belden 1694A or equivalent
	HD-SDI: 0-100 m Belden 1694A or equivalent

### SDI Video Output

**Table 4-2** SDI Video Output Specifications

Item	Parameter
Number of outputs	8
Signal type	HD-SDI, SD-SDI
Connector	BNC(IEC 169-8)
Impedance	75Ω
Return loss	>18 dB 5 MHz to 1.485 GHz typical; >15 dB 5 MHz to 1.485 GHz worst case
Signal amplitude	800mV +/- 10%
DC offset	0.0 V +/- 0.5 V
Rise and fall time	SD-SDI: 400 to 700 ps HD-SDI: <270 ps
Overshoot	<10%

### Power Consumption

Power: 2.2W

Positive rail: 300 mA

Negative rail: 0 mA

Note: Specifications are subject to change without notice