

SOUKA



SKD161X

16 CHANNELS ANALOG

AGILE MODULATOR

USER MANUAL V2.0

A Note from SOUKA about this Manual

Intended Audience

This user manual has been written to help people who have to use, integrate and to install the product. Some chapters require some prerequisite knowledge in electronics and especially in broadcast technologies and standards.

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Table of Contents

1. INTRODUCTION	3
2. FEATURES	3
3. SPECIFICATION	3
4. SAFT INTRODUCTIONS	4
5. UNPACKING AND HANDLING	.....	5
6. INSTALLATION	.....	5
7. FRONT PANEL VIEW	.....	6
8. REAR PANEL VIEW	.....	7
9. SETTING UP THE MODULATOR	.....	8
10. FINE TUNE	.....	8
11. SYSTEM INTERFACE	.....	9
12. COMMON TROUBLESHOOTING	.....	9
13. WARRANTY	.....	10

1. INTRODUCTION

The SKD161X takes in 16 HD signals and then modulates the HD signals into any analog channels, providing an easy way to distribute high definition signals to the old TV systems. With the pre-programmed channel list and its agile ability, the operators can set up the modulator intuitively and easily.

2. FEATURES

1. Converts HD video and audio signals to analogy NTSC or PAL channel
2. Rack mountable 1RU rack space with less space and less shipping cost
3. High picture quality thanks to the 16 HDMI inputs
4. Internal fans cooling system for long life span
5. Support HDCP

3. SPECIFICATION

INPUT			
Input Connector		HDMI*16	
VIDEO	Input Resolution	1920*1080_60P; 1920*1080_50P; 1920*1080_60i;	
		1920*1080_50i; 1280*720_60P; 1280*720_50P	
OUTPUT			
RF	Output Connector	F-Female @ 75ohms	
	Output Frequency	45 ~ 870 MHz	
	Output Level	110 dBμV	
	Adjust Range	0 ~ 20dB	
	Output-band Rejection	≥ 60dB	
GENERAL			
Power Supply	AC 90 ~ 264V @ 47~63Hz	Power Consumption	<100W
Cooling Fans	3	Dimension	48.4*32.9*4.44 (CM)
Shipping Weight	6.5 KG	Carton Size	55*39*13 (CM)

**TO REDUCE THE RISK OF ELECTRICAL SHOCK,
DO NOT REMOVE COVER FROM THIS UNIT.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

WARNING: TO PREVENT SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

4. SAFETY INSTRUCTIONS

1. Read all safety and operating instructions before you operate the modulator
2. Retain all safety and operating instructions for future reference
3. Heed all warnings on the modulator and in the safety and operating instructions
4. Follow all installation, operating and use instructions.
5. Unplug the modulator from the AC power outlet before cleaning. Use only a damp cloth for cleaning the exterior of the modulator
6. Do not use accessories or attachments not recommended by us, as they may cause hazards, and will void the warranty
7. Do not operate the modulator in high-humidity areas, or expose it to water or moisture.
8. Do not place the modulator on an unstable cart, bracket or table. The modulator may fall, causing serious personal injury and damage to the modulator. Install the modulator only in a mounting rack designed for 19" rack-mounted equipment.
9. Do not block or cover slots and openings in the modulator. These are provided for ventilation and protection from overheating. Never place the modulator near or over a radiator or heat register.
10. We strongly recommend using an outlet that contains surge suppression or ground fault protection. For added protection during a lightning storm, or when the modulator is left unattended for long periods of time, unplug it from the wall outlet or PDU and disconnect the lines between the modulator and its source. This will prevent damage caused by lightning or power line surges.
11. Do not overload wall outlets or extension cords, as this can result in a risk of fire or electrical shock.
12. Never insert objects of any kind into the modulator through openings as the objects may touch dangerous voltage and will void the warranty. Refer all servicing to authorized service personnel.
13. Unplug the modulator from the wall outlet or PDU and refer servicing to authorized service personnel whenever the following occurs:
 - The power supply cord or plug is damaged
 - Liquid has been spilled into or objects have fallen into modulator
 - The modulator has been exposed to rain or water
 - The modulator has been dropped or the chassis has been damaged
 - The modulator exhibits a distinct change in performance

When replacement parts are required, ensure that the service technician uses replacement parts specified by us. Unauthorized substitutions may damage the modulator or cause electrical shock or fire, and will void the warranty.

5. UNPACKING AND HANDLING

A full SKD161X is shipped with all equipment assembled, wired, factory tested, and then packaged in an appropriate shipping container.

5.1 Mechanical Inspection

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no wire, cable, or connectors are broken, damaged or loose.

5.2 Precautions

Avoid heat buildup

Ensure easy access to rack wiring

Facilitate servicing and maintenance

Avoid direct heating or air conditioning

Make sure rack supports are sufficiently rigid to support racks

Beware of dripping water onto equipment from leaky roofs, waveguide roof entries and cold water pipe condensations

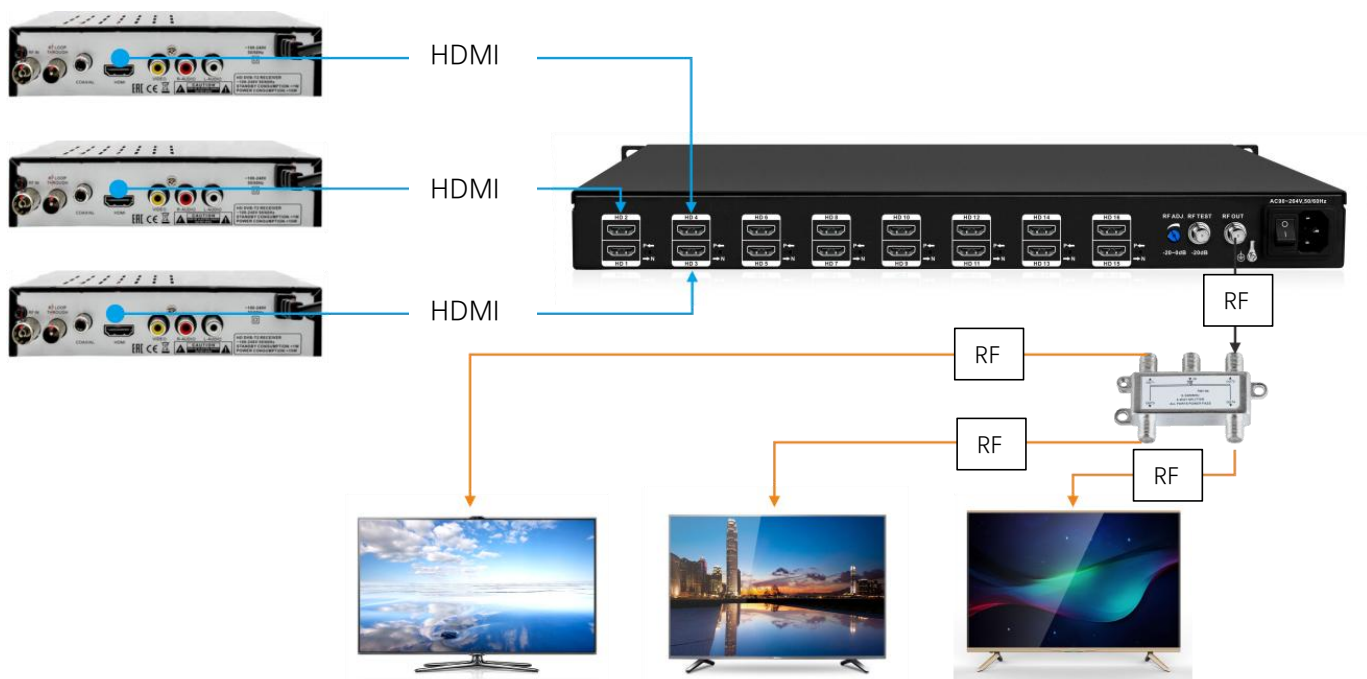
5.3 Damage in Shipment

Should any damage be discovered after unpacking the unit, immediately file a claim with the carrier. A full report of the damage shall be made and a copy forwarded to Seller.

6. INSTALLATION

The SKD161X is designed for indoor 19'' rack. Make sure a space is left between modulators for air circulation. To prevent electric shock, never remove the ground pin. Insure that electrical input cables entering the building be connected to the building ground as close to the entry point as possible.

1. Connect the power plug to the power jack
2. Connect the video source to the SKD161X like DVB or STB
3. Connect the SKD161X to the TV
4. Power up the modulator and wait for 2 minutes to set it up



7. FRONT PANEL



1. INDICATORS : Indicate power on, running and signal locked.

2. LCD DISPLAY: To display all the setting information. The LCD will be locked without any action taken within 1 minute. Press any keys to activate the screen.

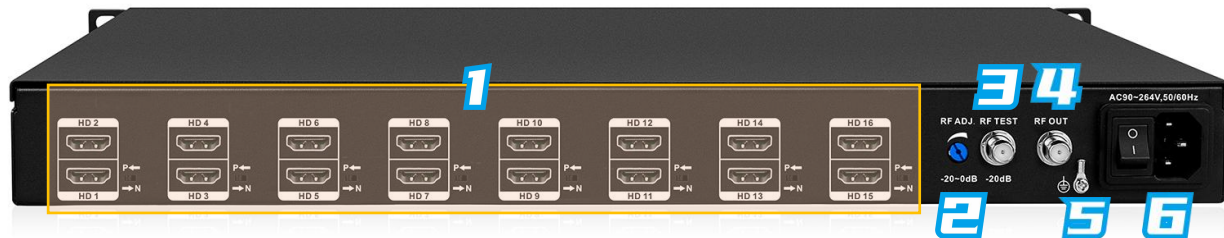
3. CONTROL KEYS:

Use UP, DOWN, LEFT and RIGHT to move, ENTER to save and ESC to quite.



All the default settings are perfectly checked in the factory. Please leave what it is if you don't know them well.

8. REAR PANEL



1. VIDEO & AUDIO INPUT :

Feed the HDMI signals into the modulator from HD1 to HD 16. P stands for PAL while N stands for NTSC.

2. RF ADJ. :

Adjustment for the combiner output level at the RF OUTPUT. The control is adjustable over a 4dB range. Turn clockwise to increase output level.

3. RF TEST:

Output level read at this point will be down 20dB from the actual output

4. RF OUTPUT:

16 modulated CATV signals at 110 dBμV maximum output is provided at this port

5. GND

For modulator grounding

6. POWER CORD SOCKET AND CORD: 110V~220V power source and the switch.



WARNING:

For the protection of your equipment and its proper working is necessary to connect the SKD161X to a ground connection.

9. SETTING UP THE MODULATOR: One-step set up design

This modulator is designed for easy setup, so the only thing you need to do is to set up the frequency in the modulator. You can go to the **Channel Settings** and just set up 16 output frequencies, then the modulator will run the rest of work.

Channel Settings	
Channel:	01
FREQ. (MHz):	◀ E2 ▶
RF Enable:	ON
ATT.(dB):	00
Video Adj(dB):	63
Audio Adj(dB):	80

10. FINE TUNE

All SOUKA modulators are heat cycled at the factory and final adjustment are made with the units hot. Thus, allow a 2-minute warm-up before attempting any adjustments. You will need a signal level meter and a TV set.

1. Connect the video and audio cable from your source to the respective connector on the modulator. If you have several SKD161X, please connect the RF OUTPUT to the proper combiner. Levels can be read at the test point output of combiner output in the rear panel.
2. AUDIO and VIDEO modulation levels are set at the factory for plus or minus 25KHz deviation and 87.5% depth of modulation respectively. Although proper test equipment should be used, minor adjustment can be made utilizing a TV set. Connect the TV set to the final output test point so that its signal level input from the modulator is about +69dBμV. If the colors look bright and there is sufficient sound without audio buzz, leave the modulation adjustment alone. If there is occasional audio buzz, turn modulation control (the RF output level) down slowly counter-clockwise until the audio is clean.

11.SYSTEM INTERFACE

MAIN MENU	
System Settings	✓
FREQ. Mode	
Channel Settings	
Channel Plan	
System Status	

MAIN MENU

System Settings : System basic settings

FREQ. Mode : Frequency input mode--Frequency or Channel

Channel Settings: The settings for all the channels

Channel Plan : View all the frequencies /channels

System Status : View the system working status

System Settings	
Language :	EN
Restore :	No ✓
Reboot :	No

SYSTEM SETTINGS

Language : English or 中文

Restore : No to Quite and Yes to load the factory settings.

*Use the LEFT and RIGHT key to select.

Reboot : No to Quite and Yes to Reboot the modulator

FREQ. Mode

FREQ. Mode : ◀ FREQ. ▶

FREQ. MODE

CH. : In the CH mode, you can select the frequency by channel name directly in the channel settings.

FREQ. Mode

FREQ. Mode : ◀ CH. ▶

FREQ. : In the FREQ. mode, you can input the frequency in the channel settings

Channel Settings

Channel: 01

FREQ. (MHz): ◀ E2 ▶

RF Enable: ON

ATT.(dB): 00

Video Adj(dB): 63

Audio Adj(dB): 80

CHANNEL SETTINGS

Channel : Select to set up the output channel 01 ~ 16

FREQ. Mode : Frequency input mode: Frequency or Channel

RF Enable : Enable or disable the channel output

ATT. : 0~20 dB

Video Adj. : Video brightness

Audio Adj. : Audio volume

Channel Plan

CH. 01(MHz) : 48.000

CH. 02(MHz) : 55.000

CH. 03(MHz) : 61.000

CH. 04(MHz) : 69.000

CH. 05(MHz) : 76.000

◀ 1/6 ▶

Channel Plan

CH. 01(MHz) : E2

CH. 02(MHz) : E3

CH. 03(MHz) : E4

CH. 04(MHz) : E25

CH. 05(MHz) : E50

◀ 1/6 ▶

Channel Plan

CH. 01(MHz) : E2 !

CH. 02(MHz) : E2 !

CH. 03(MHz) : E4

CH. 04(MHz) : E25

CH. 05(MHz) : E50

◀ 1/6 ▶

CHANNEL PLAN This is a read-only page.

You can check the channels or frequencies you have set up. And the system will RED out the repeated channels here for a warning. Use the LEFT and RIGHT key to switch the pages.

System Status

DEV. Name : SKD162X

Language : EN

Video : PAL

BandWidth : 7

Audio: BG

SYSTEM STATUS This is a read-only page.

DEV.Name : Display this modulator's mode number











Language : Display the current system language

Video : Display the current system video standard

Bandwidth : Display the current system bandwidth

Audio : Display the current system sound standard

12. COMMON TROUBLESHOOTING

PROBLEM	PICTURE	SOLUTION
Herringbone in TV		Disconnect modulator from local channels and check modulated channel. If there is programming move the modulated channel. If the picture is snowy, use a low pass filter to block noise or data coming in from cable.
Horizontal Bars Rolling Through TV Picture		Check for a component of the system that is introducing DC power into the system. Disconnect that component and check TV. If the hum bars stop, use a DC blocker down stream from that component to block the power from getting to the TVs. If the rolling is only on the modulated channels, check for impedance mismatch by adjusting the video level adjustment pot.
Vertical Bars Rolling Through TV Picture		Check for AC power getting on the line. Use a ground breaker in line.
Ghost on the Picture		Check for low quality combiner/ splitter in system. Replace with high isolation combiner/splitter. Check the type of coax used in system. Inadequate shielding in coax will cause ghosting.
Snowy Picture		Verify the modulator is set up for the proper TV channel band. Verify the TV is set up on the proper TV channel band.
Black and White Lines on one Local Channel		Move modulated channel up to a new channel. If problem persists and all of the inputs of a multiple input modulator are not being used, check default channels on modulator to see if default channel is set to the same channel that the problem channel is.
Modulated Picture is Too Bright or Washed out		Adjust video level adjustment potentiometer on the modulator front panel. If using a camera, check positioning of the lens to be sure it's not aimed at the sun or a reflection. Adjust camera lens.
Modulated Picture is Too Dark		If the baseband video is being split, you might require a amplifier. Try to adjust video level potentiometer on the front panel of modulator or rear panel of chassis If the video source is not being split, check input source directly into a TV.
Noise on the Audio		Insert grounding block in line and ground coax cable before it enters the TV. Use professional grade audio/video interconnect between the components and the modulator
Audio is Too Low		Use a Y connector to combiner the left and right audio before entering the modulator. Adjust sound level potentiometer on the modulator front panel.

13. WARRANTY (1 YEAR)

Dingshengwei Electronics equipment has been thoroughly tested and found to be in proper operating condition when shipped from the factory and is warranted to be free from defects in materials or workmanship that may develop within one year of the date of purchase. DSW agrees to remedy such or furnish a new part, or at its option an entire unit, or any part of a unit that disclosed such defect, provided that the unit or part is returned to DSW or DSW authorized service facility according to the terms listed below.

Prior authorization with a return authorization number issued by DSW or its representative is required for all returns. The purchaser shall be responsible for all freight charges on shipment to DSW unless otherwise authorized. Charges to return a unit or part to purchaser will be paid by DSW. Claim for damage in shipment to the purchaser must be filed by the purchaser with the carrier in accordance with the carrier's regulations.

DSW shall not be responsible for the shipping charge if the returned unit turns out to be flawless.

A Return Material Authorization (RMA) Number is required on all products returned to DSW. Regardless if the product is being returned for repair or credit. Before returning product, please contact the DSW sale who you contact with.

Buyer :		RMA Number:
Mode Number	Products ID Number	Problem

If there's not enough space in this form, please attach a separate sheet of paper.

Thanks for using our products.
For more products, please visit our
website: <https://www.soukacatv.com>