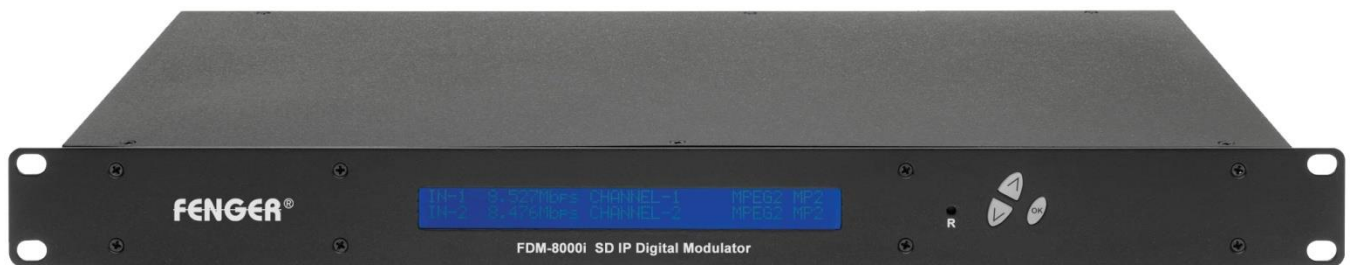


# INSTALLATION & CONFIGURATION MANUAL

## **FDM-4000i** 4-port SD Digital Modulator with IP



**FENGER®**



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## SAFETY PRECAUTIONS



*The presence of this symbol is to alert the installer and user to the presence of uninsulated dangerous voltages within the product's enclosure that may be of sufficient magnitude to produce a risk of electric shock.*

**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE. DO NOT OPEN THE UNIT. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.**

- ❖ DO NOT apply power to the unit until all connections have been made, all components have been installed and all wiring has been properly terminated.
- ❖ DO NOT terminate, change or uninstall any wiring without first disconnecting the unit's power adapter from the device.
- ❖ DO NOT connect the power supply to the device if the power cord is damaged.
- ❖ DO NOT cut the power cord.
- ❖ DO NOT plug the power cord into an AC outlet until all cables and connections to the device have been properly connected.
- ❖ The device should be installed in an environment consistent with its operating temperature specifications. Placement next to heating devices and ducts is to be avoided as doing so may cause damage. The device should not be placed in areas of high humidity.
- ❖ DO NOT cover any of the device's ventilation openings.
- ❖ DO NOT cover or obstruct the device's fan or fan openings.
- ❖ If the device has been in a cold environment allow it to warm to room temperature for at least 2 hours before connecting to an AC outlet.

## PACKAGE CONTENTS

This package contains:

- ❖ One FDM-4000i SD IP Digital Modulator
- ❖ One Power Cord
- ❖ One Installation Manual

Inspect the package before starting installation to ensure there is no damage and all supplied contents are present. Contact your distributor or dealer should the device be damaged or package contents are incomplete.

## PRODUCT DESCRIPTION

**FENGER's** FDM-4000i encoder/modulator converts Digital Video Broadcasting (DVB) standard definition video and audio signals to DVB-T. The unit features programmable channel and network names. Adjustable RF output (Normal, Inverted, and C.W.), adjustable logic channel numbering (LCN) and adjustable attenuation are standard features. The unit's front-mounted LCD display and controls allow for easy configuration and adjustments.

The FDM-4000i SD IP Digital Modulator is perfect for multi-video distribution solutions in the commercial and institutional market (hotels, motels, sports bars, boats, restaurants, hospitals, casinos, business and university campus, etc.).

## SPECIFICATIONS

FDM-4000i	4-input SD Encoder Modulator with IP
Input	
Video Input	CVBS
Video Input Level	0.7 - 1.4V (peak-to-peak)
Video Mode	PAL / NTSC
Audio Input	Stereo
Audio Input Level	0.4 - 4.8V (peak-to-peak)
Video & Audio Connectors	RCA female
Impedance	75 Ohm
RF Output	
Standard	DVB-T according to EN 300 744
Frequency Range	E2 (50.5MHz) ~ S20 (296.5MHz) with 7 MHz interval S21 (306MHz) ~ E69 (858MHz) with 8 MHz interval
Channel Bandwidth	7 MHz, 8 MHz
MER	36dB typical
Output Level	105dBμV typical
Output Level Adjustment	0 to -20dB (1dB step)
Output Impedance	75 Ohm
Output Connector	"F" female
IP Output	
Streaming Method	RTP/UDP Unicast, RTP/UDP Multicast
Output Connector	RJ-45, 1Gbps
Modulation	
Video Resolution	PAL 720x576@25ftp / NTSC 720x480@30ftp
Video Compression	MPEG-2, MP@HL 4:2:0
Audio Compression	MPEG-1 Layer II
LCN Processing	Yes
Carrier (OFDM Mode)	2K, 8K
Guard Intervals	1/32
Code Rate (FEC)	7/8
Constellations	64 QAM
Programming Interface	
Local Setup	LCD Display + keypad
Remote Management	via Web Browser from any PC
Language	English
General	
Power Supply	100 to 240 VAC, 50/60 Hz
Power Consumption	2.050 mA
Temperature Rating	0 °C to +45 °C
Dimensions	482.7mm x 240mm x 44.4mm, 1RU
Weight	3.40 Kilograms

\*Specifications are subject to change without prior notice

## INSTALLATION



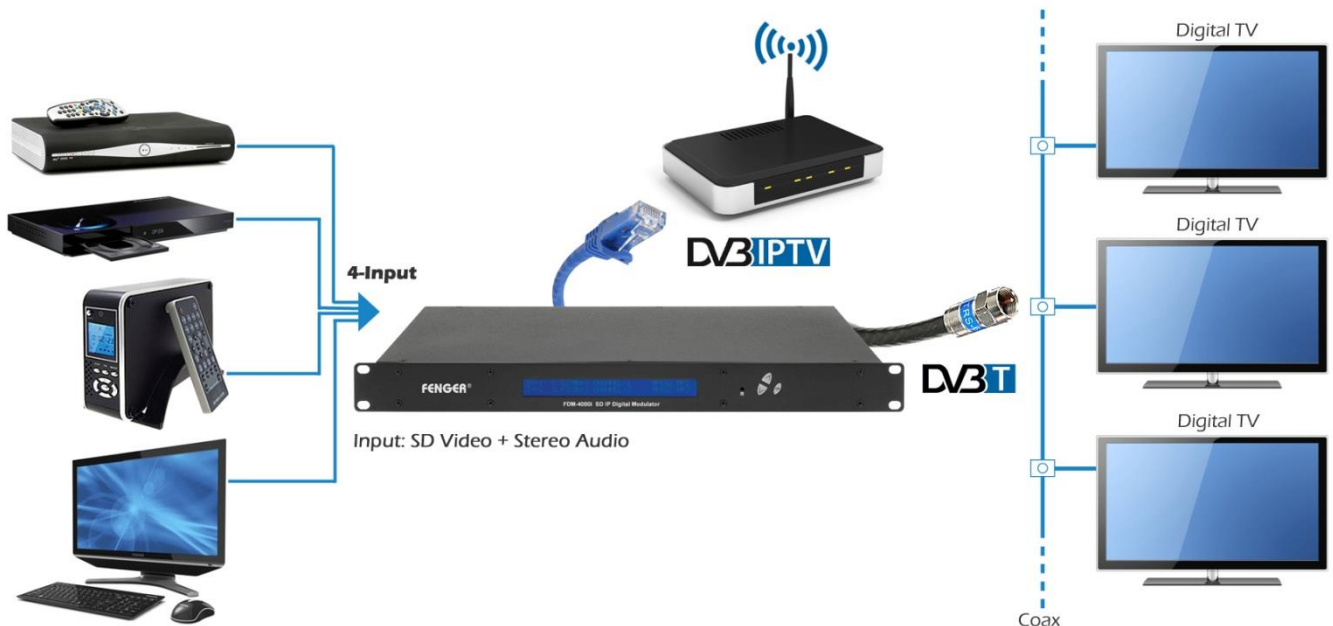
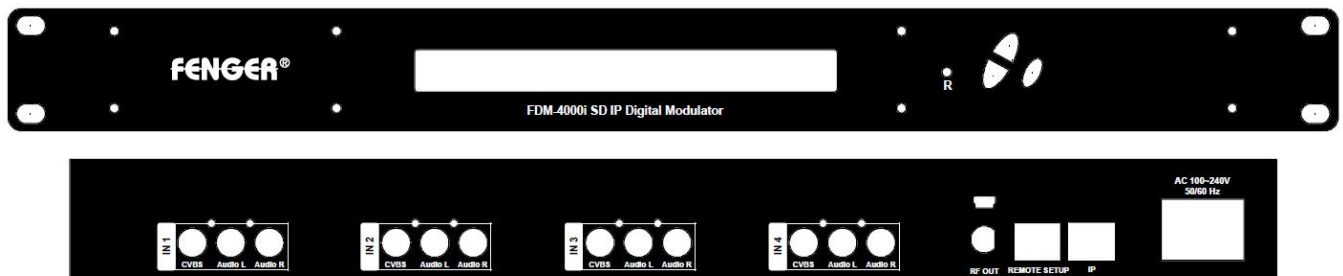
***System Installer must adhere to Article 820-40 of the NEC that provides guidelines for proper grounding and specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as possible.***

### UNPACKING and INSPECTION

Each unit is shipped factory tested. Ensure all items are removed from the container prior to discarding any packing material.

Thoroughly inspect the unit for shipping damage with particular attention to connectors and controls. If there is any sign of damage to the unit or damaged or loose connectors contact your distributor immediately. Do not put the equipment into service if there is any indication of defect or damage.

### PRODUCT PICTURES and DIAGRAMS



## HARDWARE INSTALLATION and CONNECTIONS

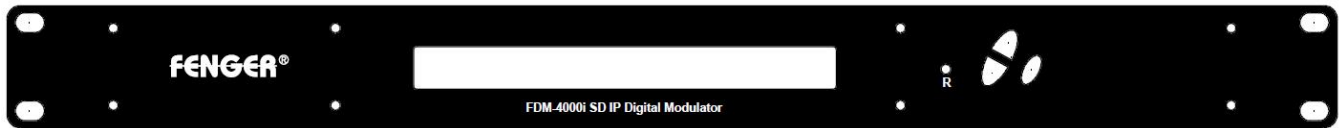
1. The unit is designed to be rack mounted in a standard EIA 19" rack.
2. Use a 75Ω coaxial cable with RCA connectors to connect the **video source** (e.g., STB, DVD, VCR, and Camera) to the unit's **yellow RCA VIDEO INPUT jack** (IN1...IN4). Repeat this step for each video source connection.

**It is highly recommended that quality coaxial cable and connectors be used for all video source connections.**

3. Use RCA cables to connect the **audio source** to the red / white **AUDIO L and AUDIO R INPUT jacks** (IN1...IN4). Use the red and white jacks for audio input or either one for a single input. Repeat this step for each audio source connection. Be sure the video and audio connections for each source are consistent with the unit's inputs (IN1...IN4).

**It is highly recommended that quality cables and connectors be used for all audio source connections.**

4. Use a quality 75Ω coaxial cable with "F" connectors from the unit's **RF OUT jack** to the **distribution system** (combiner or reverse splitter).
5. Connect the included power cord to the unit's **POWER** plug.
6. Connect the power cord to an appropriately rated AC power outlet.



## DEVICE Programming and Setup

To setup and program the Encoder you can use the **GUI interface** or the **LCD Front Panel**

### Connecting to the GUI Interface:

Connect an Ethernet cable directly (**no Cross Over cable required**) to the Web Management Port on the rear panel of the Encoder or connect the Ethernet cable to an Ethernet switch. Connect an Ethernet Cable to your PC.

#### Static IP address

- A static IP address must be used on the computer you use to configure the Encoder. Refer to the computer's operating software documentation for assistance on using static IP addresses.

#### Starting GUI Interface

- Open a web browser window
- Enter "**http://192.168.1.9**" in the web address field

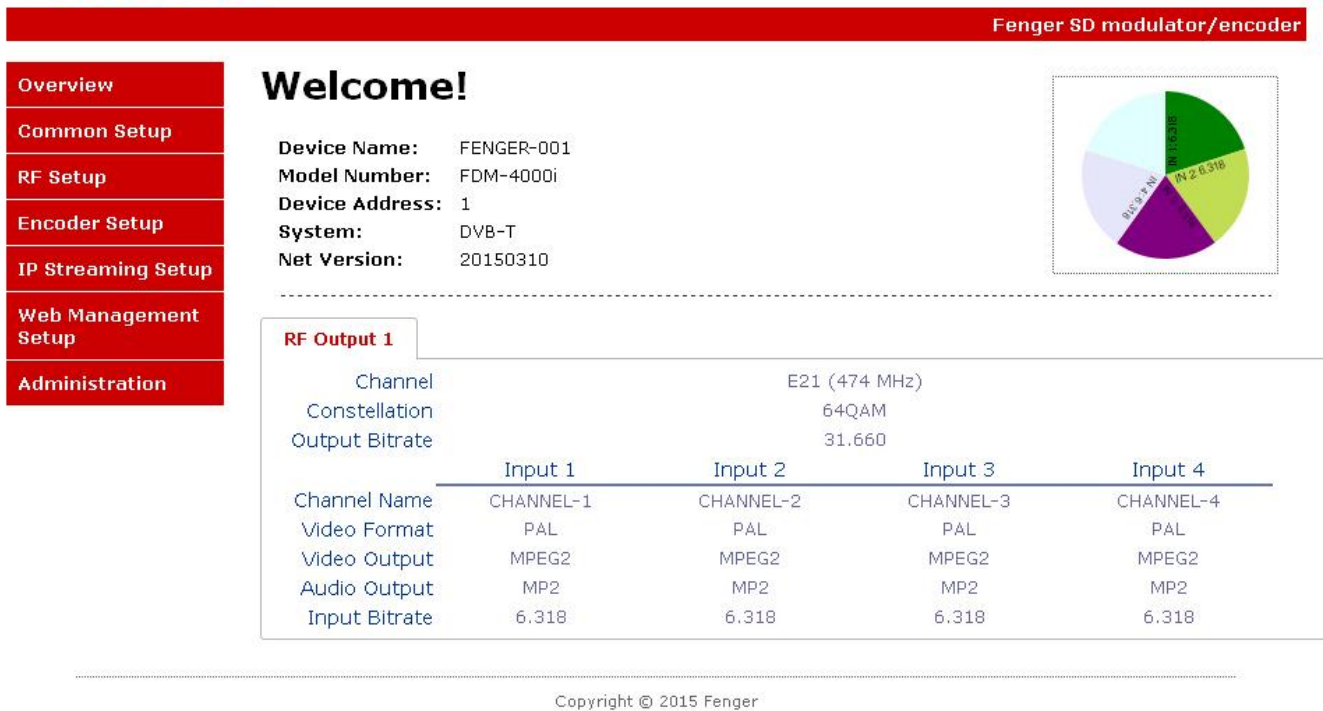
**Note:** To setup the encoder using the Front Panel LCD see "Modulator Configuration via Front Panel LCD".



## Encoder Programming and Setup via GUI Interface:

**Step 1:** After setting the static IP address in the web address field, press Enter and you will view the Device Webpage.

### Overview Page of Fenger Encoder



Welcome page showing overview status of the Encoder when fully functioning.

### Step 2: Login Select Common Setup

Once the Common Setup Tab is selected you will be prompted to enter the user name and password for device.

Default User Name: **admin**

Default Password: **Admin123**

To view this page, you must log in to area "Protected" on 169.254.141.27:80.  
Your password will be sent unencrypted.

Name:

Password:

☐ Remember this password in my keychain

Cancel Log In

**Note:** To change the Password for the GUI go to the Administration Tab

### Step 3: Common Setup Tab

#### Common Setup

Use the Common Setup Page to set the Output channel, Attenuation, LCN Mode, and Device Address.



Fenger SD modulator/encoder

Overview

Common Setup

RF Setup

Encoder Setup

IP Streaming Setup

Web Management Setup

Administration

## Common Setup

This page allows the user to setup common configurations. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, and encoders' setup, you can use the upload and reboot function to store the new parameters for the device.

Output Channel: E21 (474 MHz)   
Attenuation: 0 dB   
LCN Mode: ITC

Device Address: 1

Local Save

Upload and Reboot

Reset local changes

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### Step 4: Local Save

Once all parameters are set you are **required** to do a **Local Save**.

#### Notes on Changes:

Changes made to an individual setup tab may require the installer to perform a Local Save **AND** Upload and Reboot to the device if only making changes to one parameter of the encoder.

**Example:** Installer is required to change only the output channel for the device (No other changes to the device are required). Once the channel has been changed, the installer is required to perform **1: Local Save AND 2: Upload and Reboot**.

## Step 5: RF Setup

### RF Setup



Fenger SD modulator/encoder

Overview

Common Setup

RF Setup

Encoder Setup

IP Streaming Setup

Web Management Setup

Administration

## RF Setup

This page allows the user to configure RF parameters for the encoder. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, and encoders' setup, you can use the upload and reboot function to store the new parameters for the device.

### RF Output 1

Constellation:	64QAM
FEC:	7/8
Guard Interval:	1/32
OFDM Mode:	8k
RF Output:	Normal
Cell ID:	0
TS ID:	4109
Network ID:	12289
Original Network ID:	170
Network Name:	FENGER
Enable:	<input checked="" type="checkbox"/>

Local Save

Upload and Reboot

Reset local changes

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Use the RF Setup Page to setup RF Output.

**Select** and set the required parameters you require for your installation.

### \*\*\*\*\*Installing Multiple Units of FDM-4000i Modulators in an Installation\*\*\*\*\*

Please ensure each FDM-4000i Modulator has different settings in the categories below if you are installing 2 or more in an installation.

**Output Channel | TS ID | Network ID | Channel Name | LCN**

**Note:** Failure to change the above settings will result in conflict and will not install all channels correctly.

### Step 6: Local Save

Once all parameters are set you are **required** to do a **Local Save**.

## Step 7: Encoder Setup

### Encoder Setup

Select the **Encoder 1, 2, 3, 4 tabs** to program an individual encoder. **Select** and **change** all desired parameters.

**Note:** There will be an Encoder tab present for each input on the device.



Fenger SD modulator/encoder

Overview

Common Setup

RF Setup

Encoder Setup

IP Streaming Setup

Web Management Setup

Administration

## Encoder Setup

This page allows the user to configure the encoder's settings. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, and encoders' setup, you can use the upload and reboot function to store the new parameters for the device.

Encoder 1

Encoder 2

Encoder 3

Encoder 4

Video Format:

PAL

Program Number:

4173

Channel Name:

CHANNEL-1

Provider Name:

FENGER

LCN:

23

Aspect Ratio:

4:3

Brightness:

128

Contrast:

128

Saturation:

128

Hue:

128

Sharpness:

64

Local Save

Upload and Reboot

Reset local changes

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## Step 8: Local Save for each Encoder tab

Once all parameters are set you are **required** to do a **Local Save** on **EACH** Encoder Tab where changes were performed.

\*\*\*\*\* Ensure all Encoder tab changes have been locally saved

\*\*\*\*\* Ensure all Encoder changes have been locally saved for each Encoder.

## Step 9: IP Streaming

### IP Streaming Setup



Fenger SD modulator/encoder

Overview

Common Setup

RF Setup

Encoder Setup

IP Streaming Setup

Web Management Setup

Administration

## IP Streaming

This page allows the user to setup the IP Streaming settings. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, encoders' setup, and IP Streaming, you can use the upload and reboot function to store the new parameters for the device.

### Network Setup

☐ Enable DHCP

IP Address: 192.168.1.10

Subnet Mask: 255.255.255.0

Gateway: 0.0.0.0

Streaming 1

Streaming 2

Streaming 3

Streaming 4

Stream Method: RTP Unicast

Destination IP: 192.168.1.20

Destination Port: 10000

TTL: 63

Enable: ☒

Local Save

Upload and Reboot

Reset local changes

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Select the **Streaming 1, 2, 3, 4** tab to program an individual IP Streaming.

Use the IP Streaming setup page to set your device's IP streaming IP Address, and select your streaming method protocol and Destination IP, Port, and TTL settings.

### Step 10: Local Save

Once all parameters are set you are **required** to do a **Local Save**.

\*\*\*\*\* Ensure all Encoder changes have been locally saved before performing Step 11.

### Step 11: Upload and Reboot

Once you have set all the encoder settings and performed a **Local Save** for each Setup tab.

Select **“Upload and Reboot”** on the IP Streaming page after you have saved all your Local changes. This function will upload and save all parameters set in the Common, RF, Encoder, IP Streaming sections of the device. Your device will quickly reboot.

**Reminder:** If changing only a setting on a specific setup page- remember to do a “Local Save” and “Upload and Reboot”.

We highly recommend you to save your encoder configuration files. See Administration tab for how to back up your settings.

## Step 12: Network Configuration Tab

### Network Configuration



Fenger SD modulator/encoder

Overview

Common Setup

RF Setup

Encoder Setup

IP Streaming Setup

Web Management Setup

Administration

## Network Configuration

This page allows user to configure the encoder's network settings.

**CAUTION:** Incorrect settings may cause the encoder to lose network connectivity. Recovery options will be provided on the next page.

Enter the new settings for the encoder below:

Host Name:	<input type="text" value="FINGER-###"/> FINGER-001
	<input checked="" type="checkbox"/> Enable DHCP
IP Address:	<input type="text" value="192.168.2.9"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>
Gateway:	<input type="text" value="192.168.2.1"/>
	<input type="button" value="Save Config"/>

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Use the Network Setup Tab to configure the device's IP address, Subnet Mask, Gateway, Enable/Disable DHCP, and set Host Name.

## Step 13: Save Network Configuration

**Save Config:** Once all parameters are set you are **required** to select **Save Config**. This function will reboot and save the changes setting for the Network Configuration.

**Note:** Only the Network Configuration changes will be saved.



## Step 14: Administration

### Administration



Fenger SD modulator/encoder

Overview

Common Setup

RF Setup

Encoder Setup

IP Streaming Setup

Web Management Setup

Administration

## Administration

Reboot

Reboot the device. All unsaved settings will be lost.

Reset to Default

Reset configuration to factory default.

Backup

Backup and download current configuration settings to a local file.

Config File: Αναζήτηση... Δεν επιλέχθηκε αρχείο.

Upload

Upload the pre-saved configuration settings to device.

**CAUTION:** The new password must contain:

- 6~8 characters
- At least one digit
- At least one uppercase character
- At least one lowercase character

Old Password:

New Password:

Retype New Password:

Save and Confirm

After changing the password use the Save and Confirm button. The encoder will reopen to the Welcome page allowing the user to use the new password.

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Administration Page Functions	Actions
Reboot	Reboot device. All unsaved settings will be lost.
Reset to Default	Reset all settings back to original factory settings
Backup	Download all settings of device
Upload	Upload a saved config file
New Password	Create and save new password for GUI

\*\*\*\*Caution\*\*\*\*

Selecting “Reset to Default” will automatically reset all saved settings back to factory default settings. All saved settings will be lost.

\*\*\*\*Caution\*\*\*\*

**Step 15:** If required, change GUI Password and Submit.

**Note:** This password is for access to the GUI only. The LCD front Panel Password will not be changed and is set to prevent unauthorized users access to your device.

### **Saving your configuration files**

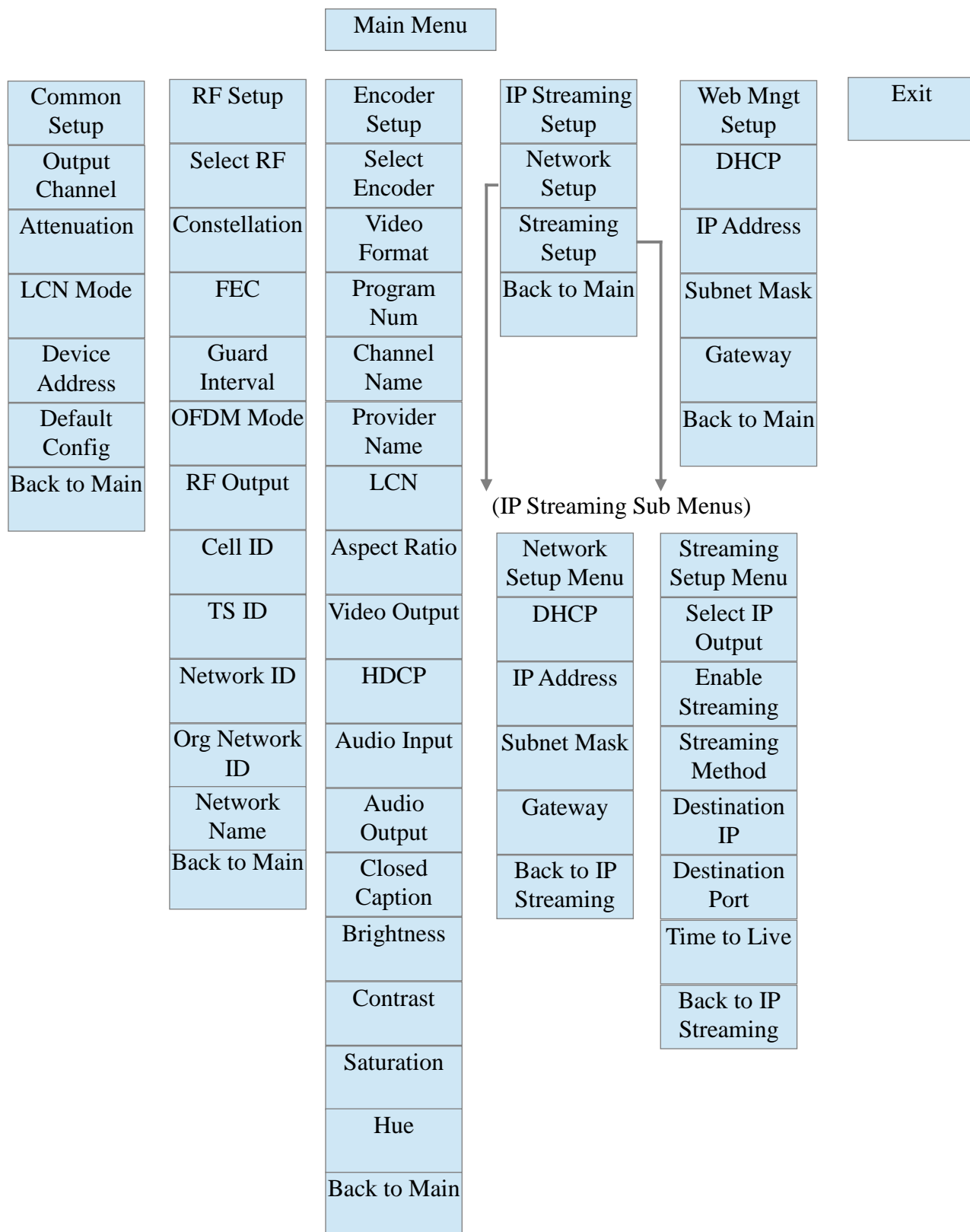
**We highly recommend you to save your encoder configuration files. Simply Click the “Backup” button and the config files will be saved to your computer.**

To upload a configuration file- simply click “**Choose File**” then locate the file you want to upload. Click “**Upload**” to install the configuration files. This function is helpful to the installer when installing a large number of encoders in a single system.



## Setup Using Front Panel LCD

### Front Panel LCD Encoder Menu Map



## Modulator Configuration via Front Panel LCD

Once the encoder is powered up it will go through its initial booting process. Once the unit has completed its initial “Booting” up process the LCD will display IN-1..., Bit Rate information, Channel-1..., and other information in the LCD Display Window. When visible the unit is ready for programming or operation.

The LCD will display data as it cycles through the available information.

### Screen Views:

1: Inputs, Mbps, Channel Names, Video Output Type, Audio Output type

IN-1	6.796Mbps	CHANNEL-1	MPEG2	MP2
IN-2	6.796Mbps	CHANNEL-2	MPEG2	MP2

2: Use the Scroll Up/Down button to display RF data, Physical Output Channel, Constellation, FEC setting, OFDM Mode Selection.

RF-1	E21 (474MHz)	QAM 64	7/8	1/32	8K
RF-2	E22 (482MHz)	QAM 64	7/8	1/32	8K

3: Use the Scroll Up/Down button to display IP address

1st DESTINATION IP	192.168. 1. 20
1st DESTINATION PORT	10000

- **Main Menu**– To access the Main Menu first enter the password by pressing the OK button. Use the Scroll Up/Down buttons to enter the password. Once the password is entered press the OK button again and the LCD Screen will display “Common Setup”.
- **Password** – Use the Scroll Up/Down buttons to enter the password. Password is **0000**. Press the OK button for each number to enter the password. Press OK again after the display shows... **SD Series**.

PASSWORD=?
0

## Common Setup Menu

- **Output Channel** – Use the Scroll Up/Down button to change the output channel. Use the Scroll Up/Down buttons to select the desired output channel. Once the desired output channel is selected press the OK button to set the channel.

The LCD Display will show both the channel number and the frequency number of the output channel (example: E21 474MHz)

- **Attenuation** – Use the Scroll Up/Down button to select Attenuation. Press the OK button to enter the Attenuation menu. Use the Scroll/Up down button to select the desired attenuation in 1dB increments from 0 to minus 20 dB. Once the desired attenuation level is found press the OK button to set.
- **LCN** – Use the Scroll Up/Down button to select LCN MODE. Press the OK button to enter the LCN menu. Menu options are APN, NORDIG, ITC, EACEM, AU, and, NZ. Factory default: ITC. Use the Scroll Up/Down button to select the desired LCN and press the OK button to set.
- **Device Address** – Use the Scroll Up/Down button to select Device Address. Press the OK button to enter the Device Address menu. Use the Scroll Up/Down to select the Desired Address ranging from 1 to 255 then press OK to set. A unique device address is required if setting up more than 1 encoder per site. This allows the user to distinguish each device.
- **Default Configuration** –To reset the Encoder/Modulator back to the factory default select the Default Configuration Menu. Press OK to enter the Default Configuration Menu. Using the Up/Down button select YES to reset all programmed settings back to the factory default setting. Factory Default: NO.



Caution: Once the “YES” button is pressed the unit will automatically reset to the factory default settings. All settings or changes to the encoder/modulator will be lost.

- **Back to Main-** Select Back to Main to escape the Common Setup Menu.

## RF Setup Menu

- **Select RF-** Press the OK button to enter the Select RF menu. Use the Scroll Up/Down button to Select the RF section of the Encoder. Select 1 or Select 2.
- **Constellation** – Use the Scroll Up/Down button to select Constellation. Press the OK button to enter the Constellation menu. The unit is default to QAM64. Press the OK button to set.
- **FEC-** Use the Scroll Up/Down button to select the FEC menu. The unit is default to 7/8. Press the OK button to set.
- **GUARD INTERVAL** – Use the Scroll Up/Down button to select Guard Interval. Press the OK button to enter the Guard Interval menu. The unit is default to 7/8. Press the OK button to set.
- **OFDM** - Use the Scroll Up/Down button to select the OFDM menu. Press the OK button to enter the OFDM menu. Use the Scroll Up/Down to select the OFDM 2K or 8K. Press OK to set.
- **RF Output** – Use the Scroll Up/Down button to select RF Output. Press the OK button to enter the RF Output menu. Menu options are Normal, Inverted and C.W. The factory

default is Normal. Use the Scroll Up/Down button to select the desired RF Output and press the OK button to set.

- **CELL ID** – Use the Scroll Up/Down button to select CELL ID. Press the OK button to enter the CELL ID menu. Use the Scroll Up/Down button to select the desired CELL ID ranging from 0 to 65535 then press the OK button to set. Factory default is 0.
- **TS ID** – Use the Scroll Up/Down button to select TS ID. Press the OK button to enter the TS ID menu. Use the Scroll Up/Down button to select the desired Stream ID ranging from 0 to 65535 then press the OK button to set.
- **Network ID** – Use the Scroll Up/Down button to select Network ID. Press the OK button to enter the Network ID menu. Use the Scroll Up/Down button to select the desired Network ID ranging from 0 to 65535 then press the OK button to set.
- **ORG Network ID** – Use the Scroll Up/Down button to select ORG Network ID. Press the OK button to enter the ORG Network ID menu. Use the Scroll Up/Down button to select the desired ID ranging from 0 to 65535 then press the OK button to set.
- **Network Name** – Use the Scroll Up/Down button to select Network Name. Press the OK button to enter the Network Name menu. Use the Scroll Up/Down button to select the first character for the desired Network Name then press the OK button to set. Repeat the process for each character in the desired Network Name. A Network Name can consist up to 16 characters.
- **Back to Main**- Select Back to Main to escape the RF Setup Menu.

## Encoder Setup Menu

- **Select Encoder** – Press the OK button to enter the Select Encoder menu. Use the Scroll Up/Down button to Select the section of the Encoder. Select 1 to 4 encoder.
- **Video Format** – Use the Scroll Up/Down button to select Video Format. Press the OK button to enter the Video Format menu. Use the Scroll Up/Down button to select the Video Format option: PAL, NTSC. Factory default: PAL. Press the OK button to set.
- **Program Num** - Use the Scroll Up/Down button to set 1 Program Num (Number). Press the OK button to enter the Program Num menu. Use the Scroll Up/Down to select the Program Num ranging from 1 to 65535 then press OK to set.

- **Channel Name** – Use the Scroll Up/Down button to select Channel Name. Press the OK button to enter the Channel Name menu. Use the Scroll Up/Down menu to select the first character of the desired Channel Name then press the OK button to set. Repeat the process until the Channel Name is completed.

The Channel Name can be 7 characters long. Factory Default: CHANNEL-1, CHANNEL-2, CHANNEL-3, CHANNEL-4.

- **PROVIDER NAME** – Use the Scroll Up/Down button to select Provider Name. Press the OK button to enter the Provider Name menu. Use the Scroll Up/Down menu to select the first character of the desired Provider Name then press the OK button to set. Repeat the process until the Provider Name is completed. The Provider Name can be 16 characters long.

- **LCN**–Use the Scroll Up/Down button to set LCN. Press the OK button to enter The Source ID menu. Use the Scroll Up/Down to set the Source ID. Range: 1 to 999. Press OK to set.
- **Aspect Ratio** – Use the Scroll Up/Down button to select Aspect Ratio. Press the OK button to enter the Aspect Ratio menu. Use the Scroll Up/Down button to select the desired Aspect Ratio option of 4:3 or 16:9 then press the OK button to set. Factory default: 4:3.
- **Brightness** – Use the Scroll Up/Down button to select Brightness. Press the OK button to enter the Brightness menu. Use the Scroll Up/Down button to select the desired Brightness value (0 to 255) and press the OK button to set. Factory default: 128.
- **Contrast** – Use the Scroll Up/Down button to select Contrast. Press the OK button to enter the Contrast menu. Use the Scroll Up/Down button to select the desired Contrast value (0 to 255) and press the OK button to set. Factory default: 128.
- **Saturation** – Use the Scroll Up/Down button to select Saturation. Press the OK button to enter the Saturation menu. Use the Scroll Up/Down button to select the desired Saturation value (0 to 255) and press the OK button to set. Factory default: 128.
- **Hue** – Use the Scroll Up/Down button to select Hue. Press the OK button to enter the Hue menu. Use the Scroll Up/Down button to select the desired Hue value (0 to 255) and press the OK button to set. Factory default: 128.
- **Sharpness** – Use the Scroll Up/Down button to select Sharpness. Press the OK button to enter the Sharpness menu. Use the Scroll Up/Down button to select the desired Sharpness value (0 to 127) and press the OK button to set. Factory default: 64.
- **Back to Main**- Select Back to Main to escape the Encoder Setup Menu.

## IP Streaming Setup

### Network Setup

- **DHCP** – Use the Scroll Up/Down button to select DHCP. Press the OK button to enter the DHCP menu. Use the Scroll Up/Down button to Enable/Disable. Press the OK button to set.
- **IP Address** – Use the Scroll Up/Down button to select IP Address. Press the OK button to enter the IP Address menu. Use the Scroll Up/Down button to enter the IP Address. Use the Scroll Up/Down menu to select the desired IP Address then press the OK button to set. Repeat the process until the IP Address is completed. Press the OK button to set. Note: If DHCP is enabled you will not be able to set an IP address. Select DHCP disabled if Static IP Address required.
- **Subnet Mask** – Use the Scroll Up/Down button to select Subnet Mask. Press the OK button to enter the Subnet Mask menu. Use the Scroll Up/Down button to enter the Subnet Mask. Use the Scroll Up/Down menu to select the first number of the desired Subnet Mask then press the OK button to set. Repeat the process until the Subnet Mask is completed. Press the OK button to set.
- **Gateway** – Use the Scroll Up/Down button to select Gateway Address. Press the OK button to enter the Gateway Address menu. Use the Scroll Up/Down button to enter the

Gateway Address. Use the Scroll Up/Down menu to select the first number of the desired Gateway Address then press the OK button to set. Repeat the process until the Gateway Address is completed. Press the OK button to set.

- **Back to IP Streaming Setup-** Select Back to Main to escape the Web Management Network Setup Menu.

## Streaming Setup

- **Select IP Output** – Use the Scroll Up/Down button to enter the IP Output selection. Select IP output port 1 to 4 to set.
- **Enable IP Streaming** – Use the Scroll Up/Down button to enter Enable IP Streaming selection. Press OK button to select ENABLE/DISABLE the IP Streaming.
- **Streaming Method** – Use the Scroll Up/Down button to select Streaming Method. Press the OK button to enter the Streaming Method menu. Use the Scroll Up/Down button to select the Streaming Method required. Select: RTP UNICAST, UDP UNICAST, RPT MULTICAST, or UDP MULTICAST. Press the OK button to set.
- **1<sup>st</sup> Destination IP** – Use the Scroll Up/Down button to select 1<sup>st</sup> Destination IP (Address). Press the OK button to enter the 1<sup>st</sup> Destination IP Address menu. Use the Scroll Up/Down button to set the Destination IP Address. Note: By selecting Unicast in the Streaming Method Menu the default address begins at 192.168.1.20. Use the Scroll Up/Down button to set the Destination IP Address. Press the OK button to set. Multicast begins at 224.1.1.1. Press the OK button to set.

### Destination IP Address Range(s):

Unicast: 0.0.0.0 ~ 223.255.255.255

Multicast: 224.0.0.0 ~ 239.255.255.255

- **1<sup>st</sup> Destination Port Number** – Use the Scroll Up/Down button to select DES Port Number (Destination Port Number). Press the OK button to enter the 1<sup>st</sup> Destination Port Number menu. Use the Scroll Up/Down button to set. Press the OK button to set.

### For 2 IP Version Only ( 2<sup>nd</sup> Destination IP / 2<sup>nd</sup> Destination Port) Functions

- **2<sup>nd</sup> Destination IP** – Use the Scroll Up/Down button to select 2<sup>nd</sup> Destination IP (Address). Press the OK button to enter the 2<sup>nd</sup> Destination IP Address menu. Use the Scroll Up/Down button to set the Destination IP Address. Note: By selecting Unicast in the Streaming Method Menu the default address begins at 192.168.1.21. Use the Scroll Up/Down button to set the Destination IP Address. Press the OK button to set. Multicast begins at 224.1.1.2. Press the OK button to set.
- **Time To Live** – Use the Scroll Up/Down button to select Time To Live menu. Press the OK button to enter the Time To Live .menu. Use the Scroll Up/Down button to select TTL. Press the OK button to set. Default Settings: Unicast: 63. Multicast: 4. TTL Range: 1~ 255.
- **Back to IP Streaming Setup-** Select Back to Main to escape the Streaming – IP Streaming Sub Menu.

## Web Management Network Setup

- **DHCP** – Use the Scroll Up/Down button to select DHCP. Press the OK button to enter the DHCP menu. Use the Scroll Up/Down button to Enable/Disable. Press the OK button to set.
- **IP Address** – Use the Scroll Up/Down button to select IP Address. Press the OK button to enter the IP Address menu. Use the Scroll Up/Down button to enter the IP Address. Use the Scroll Up/Down menu to select the desired IP Address then press the OK button to set. Repeat the process until the IP Address is completed. Press the OK button to set.  
**Note:** If DHCP is enabled you will not be able to set an IP address. Select DHCP disabled if Static IP Address required.
- **Subnet Mask** – Use the Scroll Up/Down button to select Subnet Mask. Press the OK button to enter the Subnet Mask menu. Use the Scroll Up/Down button to enter the Subnet Mask. Use the Scroll Up/Down menu to select the first number of the desired Subnet Mask then press the OK button to set. Repeat the process until the Subnet Mask is completed. Press the OK button to set.
- **Gateway Address** – Use the Scroll Up/Down button to select Gateway Address. Press the OK button to enter the Gateway Address menu. Use the Scroll Up/Down button to enter the Gateway Address. Use the Scroll Up/Down menu to select the first number of the desired Gateway Address then press the OK button to set. Repeat the process until the Gateway Address is completed. Press the OK button to set.
- **Back to Main** - Select Back to Main to escape the Web Management Net Setup Menu.

# DIGITAL MODULATOR NOTES

## PRODUCT NOTES

ITEM	VALUE
PASSWORD	
SERIAL NUMBER	
INSTALLATION DATE	
PURCHASE DATE	
VIDEO 1 INPUT	
VIDEO 2 INPUT	
VIDEO 3 INPUT	
VIDEO 4 INPUT	

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## DECLARATION OF CONFORMITY

Hereby, KOSMOSAT SA confirms that the product FDM-4000i (SD Digital Modulator with IP) conforms to relevant EEC harmonized standards and consequently can carry CE-mark.

**Relevant harmonized standards:**  
EN 55013:2001+A1:2003+A2:2006 Class B  
EN 55020:2007+A11:2011  
EN 60065:2002

