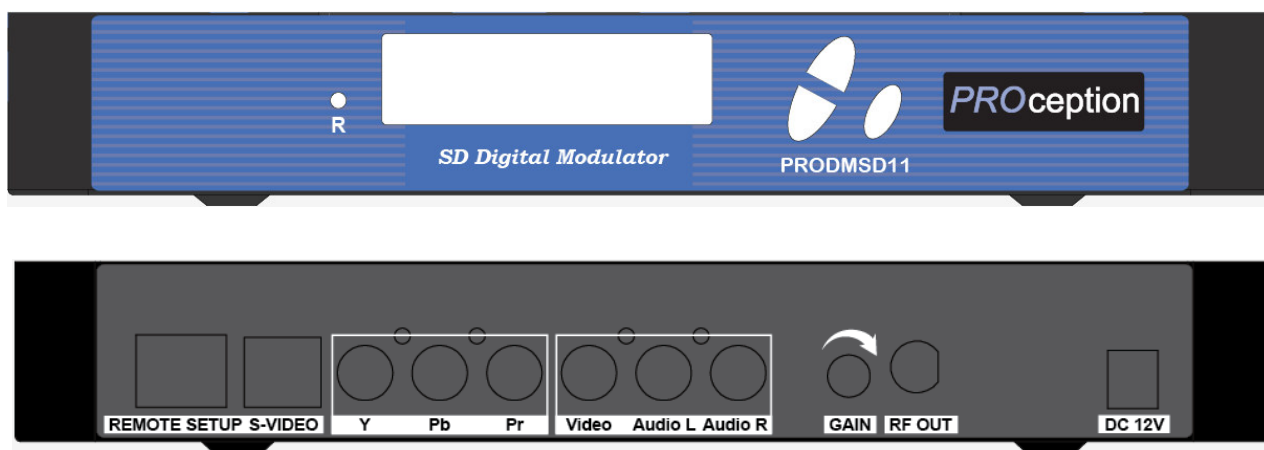


**PRO**ception

# INSTALLATION & CONFIGURATION MANUAL

## **PRODMSD11**

### **Single Input SD Digital Modulator**



**PRO**ception **blake** UK

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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.
- ❖ This device is supplied with the appropriately rated 12VDC power supply with the centre pin positive. The use of any other power supply could cause damage and invalidate the manufacturer's warranty.
- ❖ DO NOT power on the unit 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.
- ❖ If the device has been in a cold environment allow it to warm to room temperature for at least 2 hours before connecting power.



## PACKAGE CONTENTS

This package contains:

- ◆ One PRODMSD11 SD Encoder/Modulator
- ◆ One Adapter
- ◆ One installation/configuration 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



**PROception's** PRODMSD11 Modulator converts Digital Video Broadcasting (DVB) video and audio signals to COFDM. The unit features programmable channel and LCN. The unit's front-mounted LCD display allows for easy configuration and adjustments.

The compact and economical PRODMSD11 Modulator is perfect for multi-video distribution solutions in the commercial and institutional market (hotels, motels, sports bars, restaurants, hospitals, casinos, business and university campus, digital signage, etc.) as well as home entertainment systems.

## FEATURES

- Converts a composite A/V signal into a flexible DVB-T Multiplex.
- S-Video, Component and Composite inputs.
- Fully programmable via LCD control (on front panel) or via GUI interface.
- All interfaces designed to be clear, simple and user-friendly. Easy to install with factory pre-set for a typical installation
- Output Level 105 dBuV.
- Includes both manual gain control (+/- 20 dB) and software gain adjustment of (+/- 20 dB) giving total range capability of (+/- 40 dB) to eliminate problems due to high signal strength.
- LCN Function, fully agile setting.
- Easy integration into an existing network.
- RJ45 port for easy setup from remote location.
- Cool and silent operation.
- 2K & 8K Carrier Modes.
- Rack mountable.
- Firmware upgradeable.

**SPECIFICATIONS**

INPUT	PRODMSD11
Video Input	S-Video, Component, Composite
Video Input Level	0.7 – 1.4V(peak-to peak)
Video Mode	PAL/NTSC
Audio input	Stereo
Audio Input Level	0.4 – 0.8V (peak-to-peak)
OUTPUT	
Frequency Range	470~862 MHz
Output Level	105 dB $\mu$ V
MER	33 dB min.
MODULATION	
Video Resolution	PAL 720x576 @25fps / NTSC 720x480 @30fps
Video Compression	MPEG-2
Audio Compression	MPEG1 Layer II
LCN	Yes
Carrier (OFDM Mode)	2K/8K
Guard Intervals	1/4, 1/8, 1/16, 1/32
Code Rate (FEC)	3/4, 5/6, 7/8
Constellations	16 QAM / 64 QAM
GENERAL	
Power Supply	12 VDC 1.5 Amp.
Consumption	500 mA
Operating Temperature	+32 <sup>o</sup> F to +104 <sup>o</sup> F (0 <sup>o</sup> C to +40 <sup>o</sup> C)
Storage Temperature	+14 <sup>o</sup> F to +140 <sup>o</sup> F (-10 <sup>o</sup> C to +60 <sup>o</sup> C)
Languages	English
Dimensions	236mm x 155mm x 35mm
Weight	880g

***\*Specifications 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.

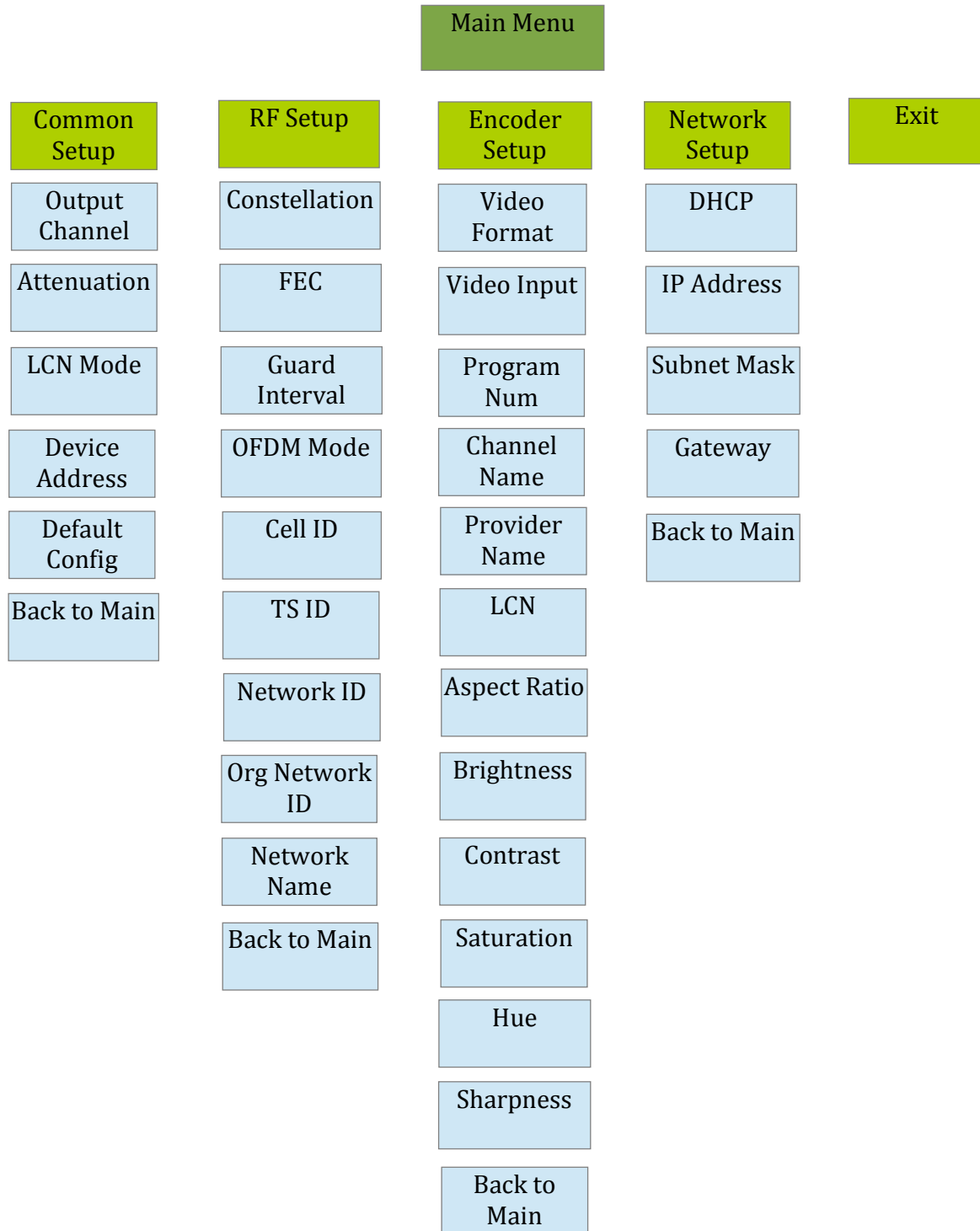
### HARDWARE INSTALLATION and CONNECTIONS



1. Use a S-Video, YPbPr, or CVBS cable to connect the video source (e.g., CATV, DVD, VCR, Camera) to the unit's S-Video, YPbPr, or CVBS port. It is highly recommended that quality cables be used for all video source connections.
2. Use a quality 75Ω coaxial cable with "F" connectors from the unit's **RF OUT** jack to the distribution system (combiner or reverse splitter) or directly to a television.
3. Connect the included power supply to the unit's **DC 12V** POWER jack.
4. Connect the power supply to an appropriately rated AC power outlet.
5. Use a quality RJ45 cable to connect the **Remote Setup** port to a computer RJ45 port for setup/manage the unit.
6. Connect the included adapter to the unit's **DC 12V** Power plug.
7. Connect the adapter to an appropriately rated AC power outlet.

## SETUP USING FRONT PANEL LCD

### Front Panel LCD Encoder Menu Map



## MODULATOR CONFIGURATION (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 ... SD Series.

**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. Password is **0000**. Once the password is entered press the OK button again and the LCD Screen will display “Main Menu Common Setup”.

### 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 of the output channel (example: E64 818MHz)

**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 MODE** – 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. The factory default is **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. The factory default is 1. [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. The factory default is 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.



**Constellation** – Use the Scroll Up/Down button to select Constellation. Press the OK button to enter the Constellation menu. The modulator allows for either QAM16 or QAM64. Select the desired Constellation then press the OK button to set. The factory default is QAM64.

**FEC** – Use the Scroll Up/Down button to select FEC. Press the OK button to enter the FEC menu. Use the Scroll Up/Down button to select the desired FEC values then press the OK button to set. Menu options are 3/4, 5/6, 7/8. The factory default is 7/8.

**GUARD INTERVAL** – Use the Scroll Up/Down button to select GUARD INTERVAL. Press the OK button to enter the GUARD INTERVAL menu. Menu options are 1/4, 1/8, 1/16, 1/32. The factory default is 1/32. Use the Scroll Up/Down button to select the desired GUARD INTERVAL and press the OK button to set.

**OFDM MODE** – Use the Scroll Up/Down button to select OFDM MODE. Press the OK button to enter the OFDM MODE menu. Menu options are 2K, 8K. The factory default is 8K. Use the Scroll Up/Down button to select the desired OFDM MODE 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. The factory default is 0.

**TS ID** – Use the Scroll Up/Down button to select Stream ID. Press the OK button to enter the Stream 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. The factory default is 4109.

**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. The factory default is 12289.

**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. The factory default is 9018.

**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 Common Setup Menu.

## Encoder Setup Menu

**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. The factory default is PAL. Press the OK button to set.

**Video Input** – Use the Scroll Up/Down button to select Video Input. Press the OK button to enter the Video Input menu. Use the Scroll Up/Down button to select the Video Input option: CVBS, YPbPr, or S-Video. The factory default is CVBS. 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. The factory default is 4173.

**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. The factory default is CHANNEL-1.

**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 LCN menu. Use the Scroll Up/Down to set the LCN. Range: 1 to 999. Press OK to set. The factory default is 23.

**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. The factory default is 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. The factory default is 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. The factory default is 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. The factory default is 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. The factory default is 128.

## PROception

**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. The factory default is 64.

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

### Network Setup Menu

**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. The factory default is Enable.

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



**Reset to Default** – Turn OFF the unit. While pressing UP and DOWN buttons at the same time, turn ON the unit. Release the UP and DOWN buttons when the LCD shows Reset To Default. The unit will reset to factory default.



Caution: Once this process is complete the unit will automatically reset to the factory default settings. All settings or changes to the encoder/modulator will be lost.

## PROCEDURE TO CONNECT TO THE ENCODER VIA LAN PORT

The following procedure will allow the installer to setup the Encoder via the GUI

(Intranet setup- closed LAN setup)

**1. Power up** the Encoder

Connect each encoder using a standard CAT5e cable from the Web Management port (located on the rear panel of the encoder) to a switch. Connect a CAT5e cable from the switch to a PC.

**2. Set** the PC via the Control Panel to **“Obtain an IP address automatically”**

**Start- Control Panel**

**View Network Status and Tasks**

Adjust your computer's settings

View by: Category ▾



**System and Security**  
Review your computer's status  
Back up your computer  
Find and fix problems



**Network and Internet**  
View network status and tasks  
Choose homegroup and sharing options



**Hardware and Sound**  
View devices and printers  
Add a device  
Connect to a projector  
Adjust commonly used mobility settings



**Programs**  
Uninstall a program



**User Accounts and Family Safety**  
Add or remove user accounts  
Set up parental controls for any user



**Appearance and Personalization**  
Change the theme  
Change desktop background  
Adjust screen resolution



**Clock, Language, and Region**  
Change keyboards or other input methods  
Change display language



**Ease of Access**  
Let Windows suggest settings  
Optimize visual display

**3. Select** 'Change Adapter Settings' from the left plane

Control Panel Home

Manage wireless networks

Change adapter settings

Change advanced sharing settings

**View your basic network information .**



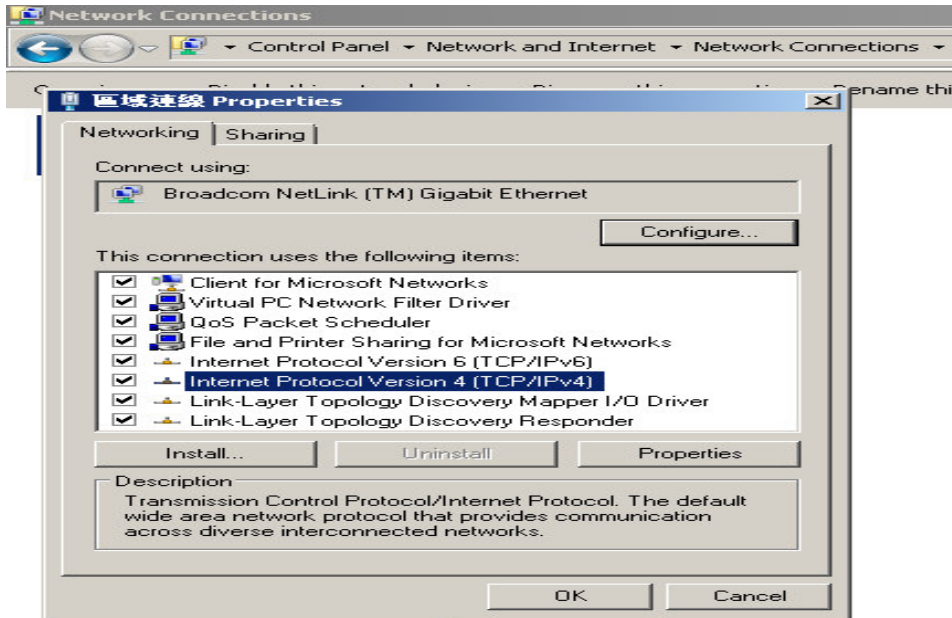
NB5741G  
(This computer)

View your active networks

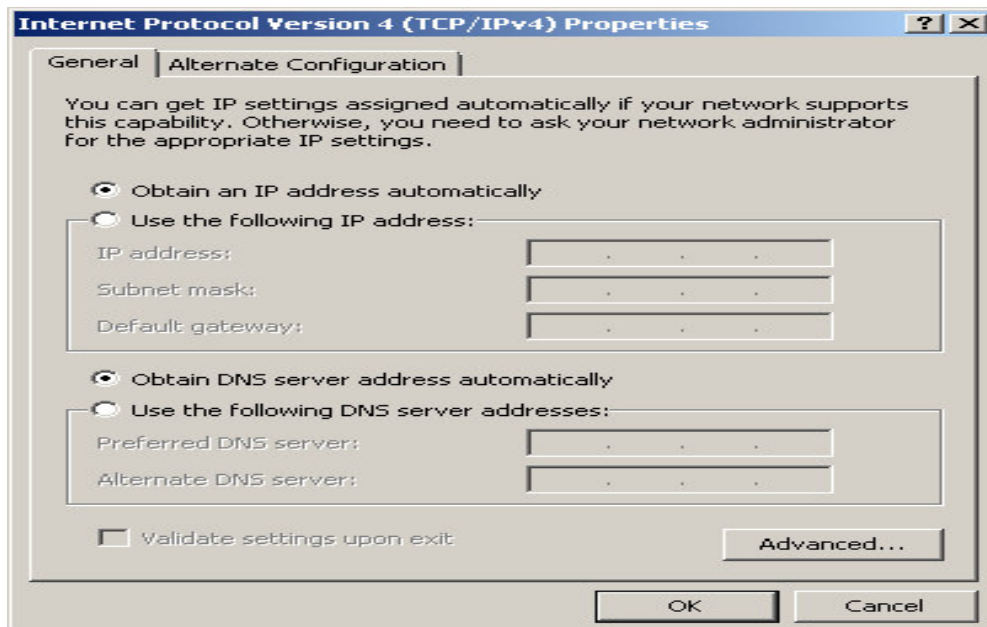
**4. Select Local Area Connection Icon**

Then Right Click – Select Properties

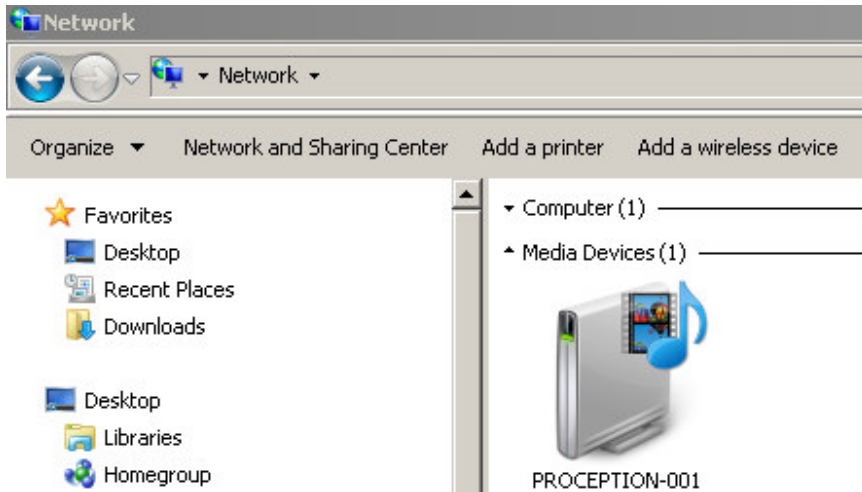
Internet Protocol Version 4(TCP/IPv4) Properties



**5. Select “Obtain an IP address automatically” & “Obtain DNS server address automatically”**



6. After setting the PC to obtain IP address & Obtain DNS server automatically



Select Start- Computer- Network

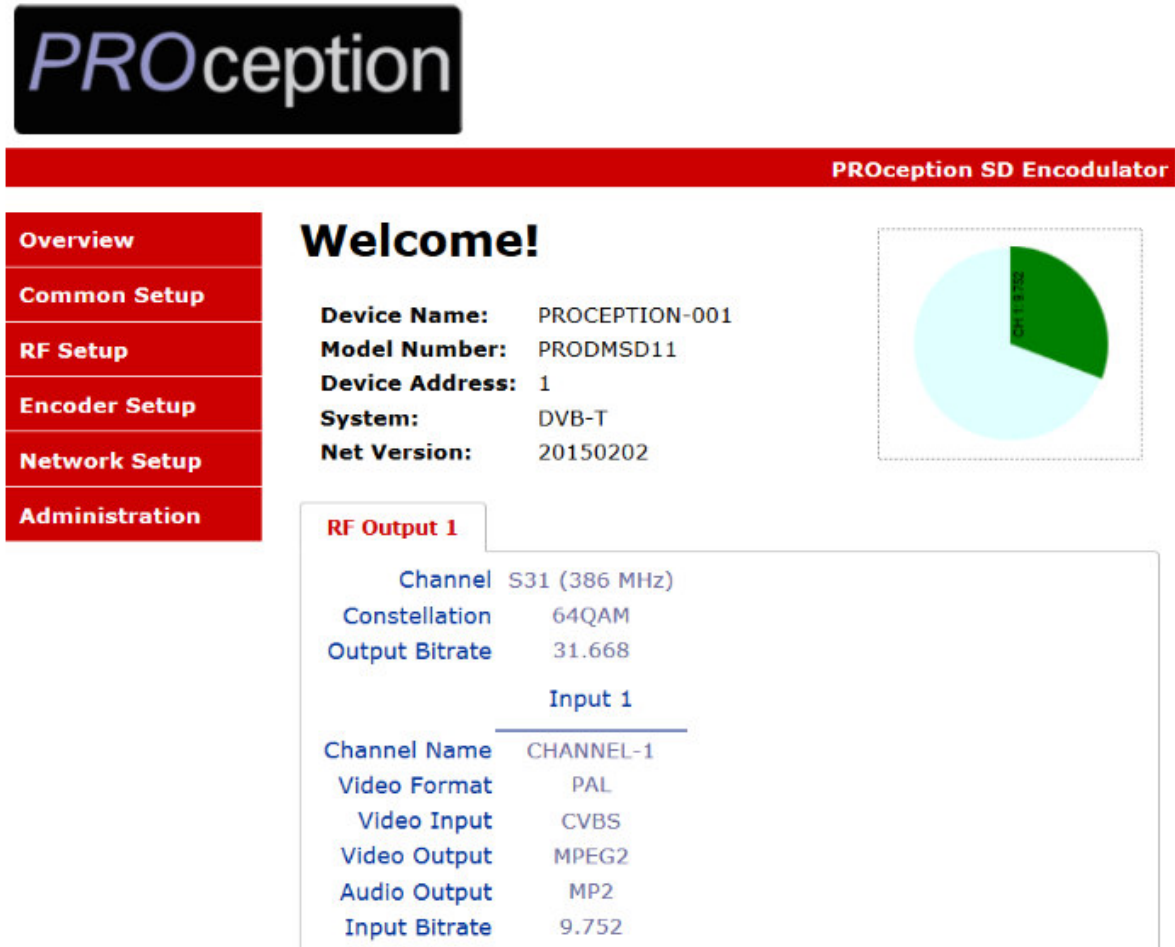
7. After selecting Network- the encoders will show up on the right side under Media Devices. Each device will show up by Device Address. (ex. PROCEPTION-001, 002, 003...)



Right Click on the icon for the Encoder you want to setup. Select 'View device webpage'

## PROception

8. **Welcome** page will be displayed as shown (figure for example)



**PROception SD Encodulator**

**Overview**

**Common Setup**

**RF Setup**

**Encoder Setup**

**Network Setup**

**Administration**

### Welcome!

**Device Name:** PROCEPTION-001  
**Model Number:** PRODMSD11  
**Device Address:** 1  
**System:** DVB-T  
**Net Version:** 20150202

**RF Output 1**

**Channel S31 (386 MHz)**

**Constellation:** 64QAM  
**Output Bitrate:** 31.668

**Input 1**

**Channel Name:** CHANNEL-1  
**Video Format:** PAL  
**Video Input:** CVBS  
**Video Output:** MPEG2  
**Audio Output:** MP2  
**Input Bitrate:** 9.752

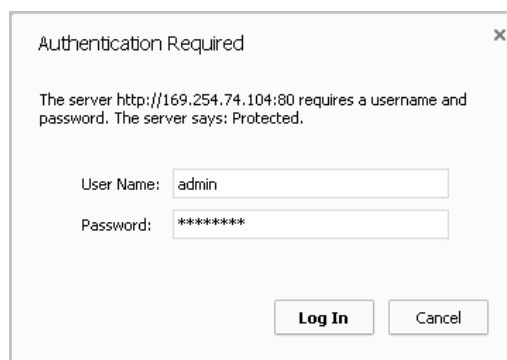
9. Select the Common Setup tab.

User will be presented with encoders '**Authentication Required**' screen.

**Enter** User Name and Password.

User Name: **admin**

Password: **Admin123**



Authentication Required

The server http://169.254.74.104:80 requires a username and password. The server says: Protected.

User Name: admin

Password: \*\*\*\*\*

**Log In** **Cancel**



10. Common Setup



Overview

Common Setup

RF Setup

Encoder Setup

Network Setup

Administration

## Common Setup

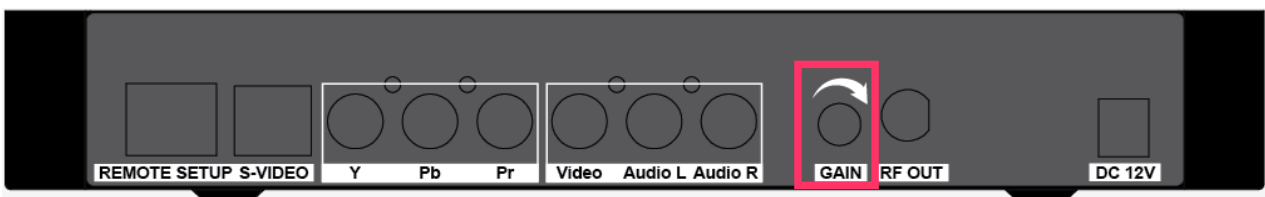
This page allows the user to setup common configurations. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, and encoders' setup, you can use the upload and reboot function to store the new parameters for the device.

Output Channel:	S31 (386 MHz) ▾
Attenuation:	0 dB ▾
LCN Mode:	ITC ▾

Device Address:	1 ▾
-----------------	-----

Local Save   Upload and Reboot   Reset local changes

**Remark:** The user can adjust attenuation in the Common Setup and/or from the GAIN control on the unit.





## 11. RF Setup

Overview

Common Setup

RF Setup

Encoder Setup

Network 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

<b>Constellation:</b>	64QAM ▾
<b>FEC:</b>	7/8 ▾
<b>Guard Interval:</b>	1/32 ▾
<b>OFDM Mode:</b>	8k ▾
<b>RF Output:</b>	Normal ▾
<b>Cell ID:</b>	<input type="text" value="0"/>
<b>TS ID:</b>	<input type="text" value="4109"/>
<b>Network ID:</b>	<input type="text" value="12289"/>
<b>Original Network ID:</b>	<input type="text" value="9018"/>
<b>Network Name:</b>	<input type="text" value="PROception"/>

Local Save

Upload and Reboot

Reset local changes

## 12. Encoder Setup

**PROception SD Encodulator**

**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**

<b>Video Format:</b>	PAL
<b>Video Input:</b>	CVBS
<b>Program Number:</b>	4173
<b>Channel Name:</b>	CHANNEL-1
<b>Provider Name:</b>	PROception
<b>LCN:</b>	23
<b>Aspect Ratio:</b>	4:3
<b>Brightness:</b>	128
<b>Contrast:</b>	128
<b>Saturation:</b>	128
<b>Hue:</b>	128
<b>Sharpness:</b>	64

Local Save    Upload and Reboot    Reset local changes

### 13. Network Setup



- Overview
- Common Setup
- RF Setup
- Encoder Setup
- Network Setup**
- Administration

## Network Setup

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:

<b>Host Name:</b>	<input type="text" value="PROception-###"/> PROCEPTION-001
	<input checked="" type="checkbox"/> Enable DHCP
<b>IP Address:</b>	<input type="text" value="169.254.243.146"/>
<b>Subnet Mask:</b>	<input type="text" value="255.255.0.0"/>
<b>Gateway:</b>	<input type="text" value="0.0.0.0"/>
	<input type="button" value="Save Config"/>

14. Administration

**PROception SD Encodulator**

**Administration**

**Reboot**  
Reboot the device. All unsaved settings will be lost.

**Reset to Default**  
Reset all settings back to original factory settings.

**Backup**  
Backup and save all settings of the device.

Config File:     
Upload a saved configuration file to the device.

**CAUTION:**The new password must:

- matches a string of 6~8 characters;
- that contains at least one digit;
- at least one uppercase character; and
- at least one lowercase character:

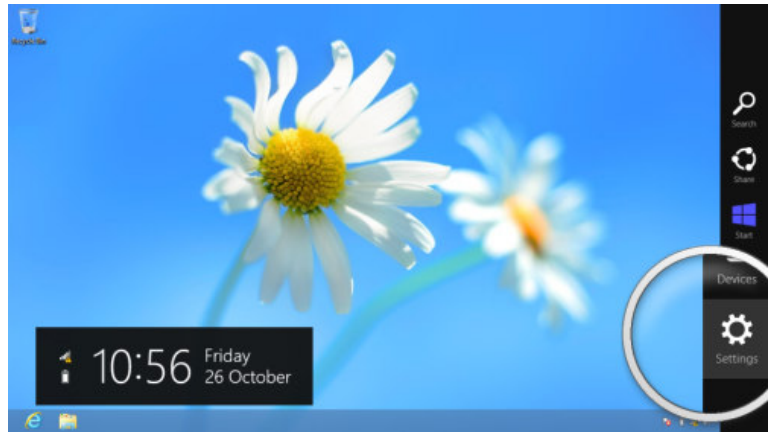
After changing the admin's password, it needs to close current web browser, and open a new browser to use new password.

**Old Password:**   
**New Password:**   
**Retype New Password:**

## APPENDIX: WINDOWS 8 SETTINGS

Windows 8 Settings:

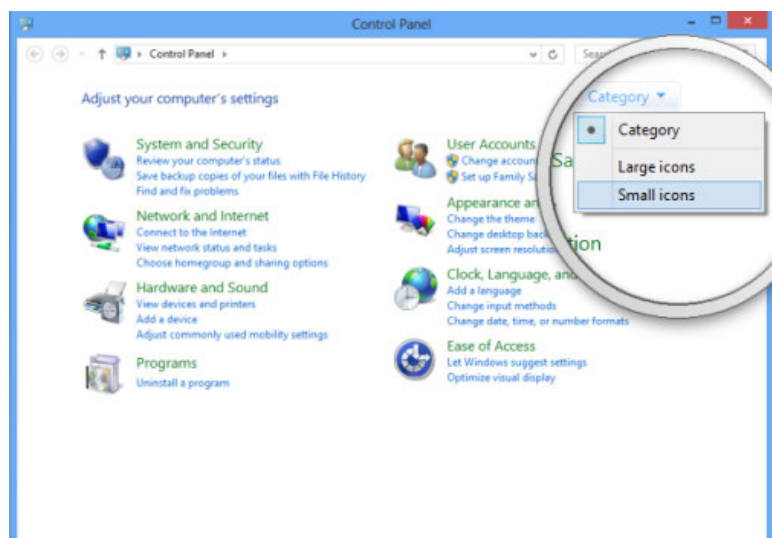
If using Windows 8 PC, move the mouse to the bottom or top right corner of the screen and select **Settings**.



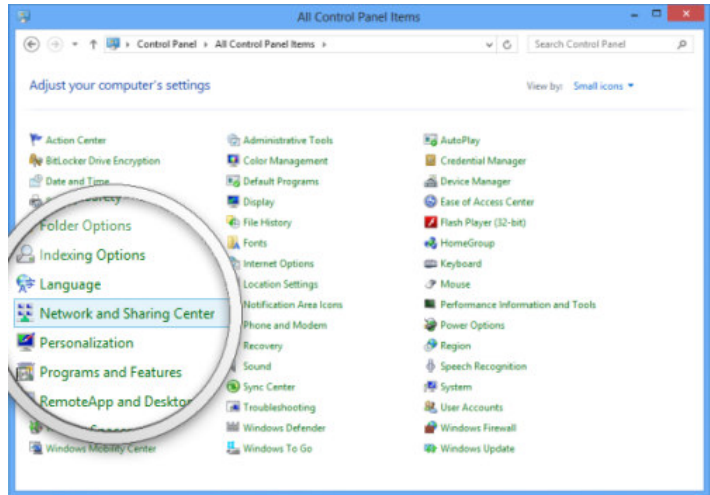
Select **Control Panel**.



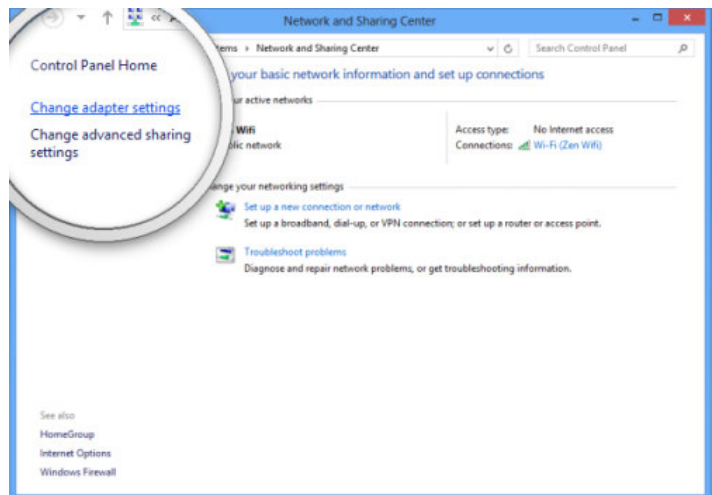
In the Control Panel window select **Category** and then select **Large** or **Small icons**.



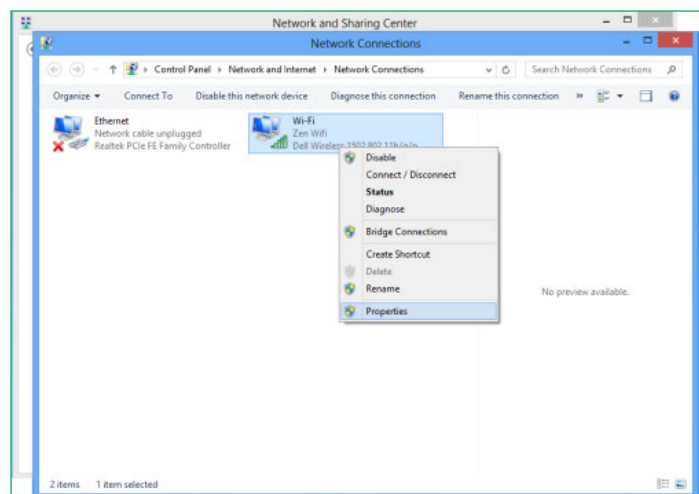
Select **Network and Sharing Centre**.



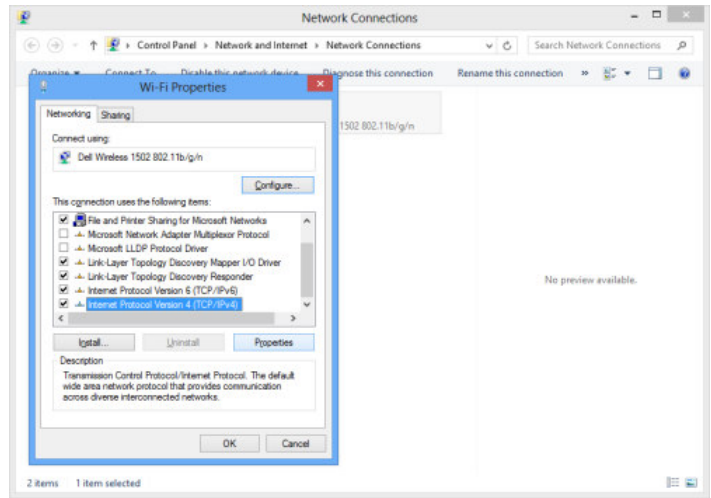
Select **Change Adapter Settings**.



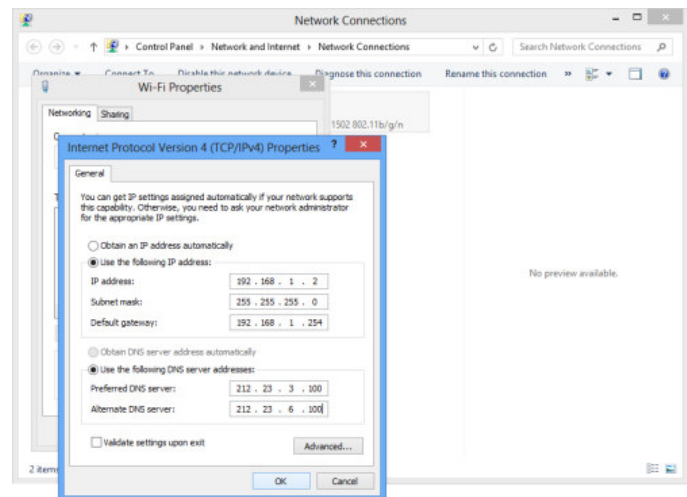
Right click on your connected network and select **Properties**.



Select **Internet Protocol Version 4 (TCIP/IPv4)**. Select **Properties**.



Select **Use the following IP address** and **Use the following DNS server addresses** to change your computer's IP address and/or DNS server addresses.



To get IP settings automatically using DHCP, click **Obtain an IP address automatically**, and then click **OK**. Select **OK to save**.

**PRODMSD11 Notes**

PRODUCT NOTES:

ITEM	VALUE
DEVICE NAME	
PURCHASE DATE	
INSTALLATION DATE	
SERIAL NUMBER	
FIRMWARE VERSION	