

### VEO-XTI1C / VEO-XRI1C

VIDEO DISTRIBUTION OVER IP H.264 Full HD over IP Video Extenders



### **USER MANUAL**



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#### **1** IMPORTANT REMARK



WARNING: SHOCK HAZARD - DO NOT OPEN AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING (If applicable): The terminals marked with symbol of "Ź" may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready-made leads or cords.

**WARNING:** To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

**WARNING:** An apparatus with Class I construction shall be connected to the main socket-outlet with a protective earthing connection.

#### 2 IMPORTANT SAFETY INSTRUCTIONS

- **1.** Read these instructions.
- 2. Keep these instructions.
- 3. Heed all warnings.
- 4. Follow all instructions.
- 5. Do not use this apparatus near water.
- 6. Clean only with dry cloth.
- **7.** Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.



- **8.** Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- **9.** Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- **10.** Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
- **11.** Only use attachments/accessories specified by the manufacturer.
- **12.** Unplug the apparatus during lightening sorts or when unused for long periods of time.
- **13.** Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- **14.** Disconnecting from mains: Switching off the POWER switch all the functions and light indicators of the amplifier will be stopped, but fully disconnecting the device from mains is done unplugging the power cord from the mains input socket. For this reason, it always shall remain readily operable.
- **15.** Equipment is connected to a socket-outlet with earthing connection by means of a power cord.
- **16.** The marking information is located at the bottom of apparatus.
- **17.** The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on apparatus.

**NOTE**: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



**WARNING:** This product must not be discarded, under any circumstance, as unsorted urban waste. Take to the nearest electrical and electronic waste treatment centre.

**NEEC AUDIO BARCELONA, S.L.** accepts no liability for any damage that may be caused to people, animal or objects due to failure to comply with the warnings above.



#### **3 IMPORTANT NOTE**

Thank you for choosing our **VEO-XTI1C & VEO-XRI1C H.264 Full HD over IP Video Extenders**. It is very important to carefully read this manual and to fully understand its contents before making any connection in order to maximize your use and get the best performance from this equipment.

To ensure optimal operation of this device, we strongly recommend that its maintenance be carried out by our authorised Technical Services.

The **VEO-XTI1C & VEO-XRI1C** kit comes with a 3-year warranty.

#### **4** INTRODUCTION

VEO-XTI1C encoder and VEO-XRI1C decoder are H.264 over IP extenders that allow HDMI video distribution via local Ethernet network. This represents a very flexible, expandable and cost-effective video distribution solution without the need of a dedicated video cabling system. Encoder and decoder support 120m over single Cat5e/6 cable in a point-to-point topology, or standard 100m Ethernet connection in point-to-multipoint and multipoint-to-multipoint over standard Ethernet switch. The over IP solutions are widely suitable for various applications such as meeting rooms, classrooms, commercial and residential AV systems, Digital Signage systems, medical information systems, transportation and mall advertisement.

#### 4.1 Features

- Supports point-to-point, point-to-multipoint and multipoint-to-multipoint configuration
- Up to 120m over single Cat5e/6 cable in point-to-point connection, with 1x looping HDMI output for daisy chaining
- TCP/IP protocol compliant with selectable streaming bit rate up to 15Mbps per stream
- H.264 compression encoding that supports resolution up to 1080p@60hz.
- HDCP Compliant
- IR Remote control, with LED display to show Group ID. Fully operating just out of the box without need of PC connection
- Integrated web server for configuration, PC tool control and Telnet control.
- Supports LPCM audio format
- Wide-band IR pass-through for source control (38khz to 56khz)



- 2-way UART/RS-232 pass-through, with remote control function to select Baud rate
- Dual power input: 802.3af compliant POE & DC 5V (No need of external power supply when encoders and decoders are connected to a POE Switch)
- Included DC 5V/1A international power supply

#### 5 PACKAGE CONTENTS

#### 5.1 VEO-XTI1C Package

- 1 x H.264 Transmitter
- 1 x IR Remote control
- 1 x Local IR Receiver Cable
- 1 x IR Blaster Cable
- 2 x Mounting Ears
- 4 x Screws
- 1 x Phoenix plug for RS-232 cable termination
- 1 x 5V/1A International Power Supply
- 1 x User Manual

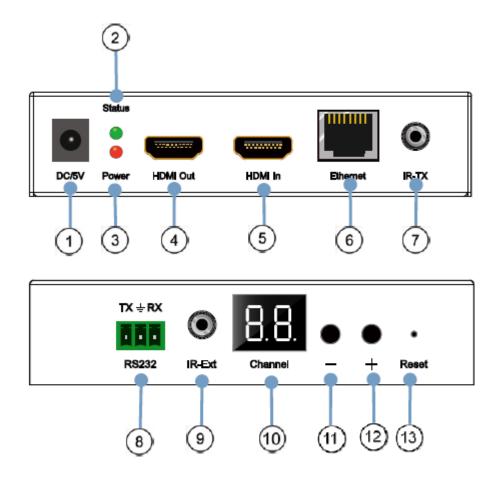
#### 5.2 VEO-XRI1C Package

- 1 x H.264 Receiver
- 1 x IR Remote control
- 1 x Local IR Receiver Cable
- 1 x IR Receiver Cable
- 2 x Mounting Ears
- 4 x Screws
- 1 x Phoenix plug for RS-232 cable termination
- 1 x 5V/1A International Power Supply



#### **6** PANEL DESCRIPTION

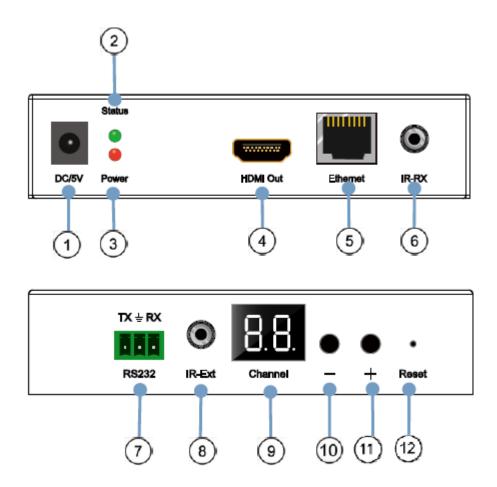
#### 6.1 Transmitter Front and Rear Panel



- 1. DC 5V Power Connector
- 2. Data Status LED Indicator
- 3. Power Supply LED Indicator
- 4. HDMI local loop Output port
- 5. HDMI Input Port
- 6. RJ45 Ethernet Port
- 7. IR Blaster Port
- 8. Bi-directional RS-232 port
- 9. Local IR Receiver Port
- 10. Group ID channel Display
- 11. Group ID decrement button
- 12. Group ID increment button
- 13. Factory reset button



6.2 Receiver Front and Rear Panel



- 1. DC 5V Power Connector
- 2. Data Status LED Indicator
- 3. Power Supply LED Indicator
- 4. HDMI Output port
- 5. RJ45 Ethernet Port
- 6. IR Receiver Port
- 7. Bi-directional RS-232 port
- 8. Local IR Receiver Port
- 9. Group ID number LED Display
- 10. Group ID number decrement button
- 11. Group ID number increment button
- 12. Factory reset button



#### 6.3 IR Sensor and IR Blaster



#### 7 INSTALLATION AND CONFIGURATION

When VEO-XTI1C and VEO-XRI1C are connected as simple extension in a point-to-point connection through a single Cat5e/6 cable, no configuration is needed. When devices are connected to a standard Ethernet LAN in point-to-multipoint or multipoint-to-multipoint topologies, please make sure that every device has unique IP address and every transmitter is using a unique Group ID.

7.1 IP Address Settings

#### 7.1.1 Static IP Address Configuration

When static IP addresses are required, the IP address of each device needs to be set manually. The default IP address for transmitters and receivers is:

- VEO-XTI1C: 192.168.1.11
- VEO-XRI1C: 192.168.1.12

The IP address can be changed using the embedded web page or using the utility software. For web page access, be sure that PC and VEO devices are in the same Network Domain and just type the default IP address in your internet browser. The default credentials for login are:

- User name: admin
- Password: admin

After changing default Ethernet settings press the related "Update" button and Reboot the unit.



#### 7.1.2 DHCP (Dynamic Host Configuration Protocol)

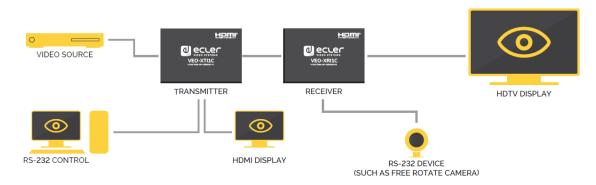
If you are using switch or LAN where DHCP server is enabled, changing the IP manually is not necessary because DHCP server will automatically assign a unique IP address to each device.

Default IP address: 192	168	1	. 12
Default Netmask: 255	255	255	0
Default Gateway: 192	168	. 1	 1
Update DHCP			
Update			
Jart Baud Rate: 115200	1		
Lipdate			

#### 7.1.3 Network Requirements

Transmitters create continuous multicast streaming traffic of video on the network; for this reason, when possible, it is recommended to create an independent IP video network using managed network switches. Use of gigabit switches with jumbo frame and IGMP support is required and will create the most appropriate scenario for both independent IP video networks, and cases where IP video systems are included within your data network.

#### 7.2 Point-to-Point Connection and Operation

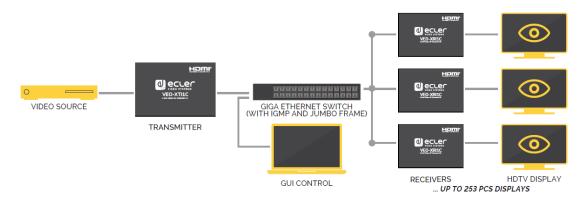


- 1. Connect source device to the VEO Transmitter HDMI port.
- 2. Connect Transmitter HDMI looping output to HDMI display.
- 3. Connect remote HDMI display to the VEO Receiver HDMI port output.
- 4. Connect Transmitter and Receiver with Cat5e/6 cable



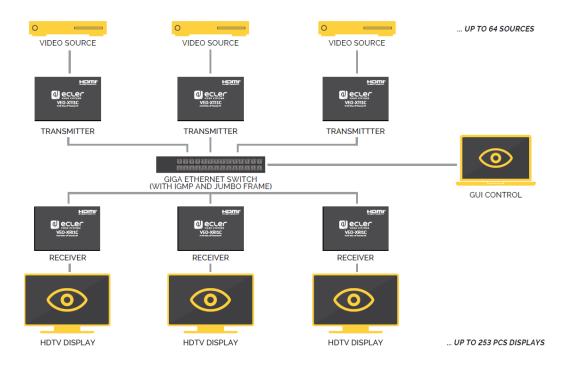
- **5.** Connect IR TX cable to "IR TX" port of the Transmitter; Connect IR RX cable into "IR RX" port of the Receiver. Then you can control source at the RX side using IR.
- **6.** Connect RS-232 Cable from the PC or automation system to Transmitter RS-232 port; connect RS-232 cable from the Receiver to RS-232 port of the device to control.
- 7. Power on Transmitter and Receiver with adapter 5V 1A.
- 8. Ensure that the selected Group ID is the same for both devices.

#### 7.3 Point-to-Multipoint Connection and Operation



- 1. Set the IP address for Transmitter & Receiver and prepare the switch
- 2. Follow steps as instructed above (refer to 6.1)
- 3. Connect source device and VEO Transmitter with HDMI Cable.
- 4. Connect HDMI looping output of the VEO Transmitter to a local HDMI display.
- 5. Connect Transmitter to network switch/router using Cat5e or Cat6 cable.
- 6. Connect all VEO Receivers and network switch/router using Cat5e/6 cables.
- **7.** Connect HDMI displays to the HDMI VEO Receiver units with HDMI Cable.
- Connect IR TX cable to "IR TX" port of the transmitter; Connect IR RX cable to "IR RX" port of the receiver. Then you can control source at the RX side with IR.
- **9.** Connect RS-232 Cable from PC or automation system to the Transmitter RS-232 port; connect RS-232 cable from the Receiver to RS-232 port of the device to be controlled.
- **10.** Power on Transmitter and Receiver with adapter 5V 1A and power on network switch. If switch supports PoE (Power over Ethernet), it will not be necessary to power the VEO devices locally.
- **11.** Ensure that the selected Group ID is the same for Transmitters and Receivers.





7.4 Multipoint-to-Multipoint Connection and Operation

- 1. Set the IP address for Transmitter & Receiver and prepare the switch
- **2.** Follow the steps as instructed above (refer to 6.1)
- 3. Connect source devices and Transmitter units with HDMI Cable.
- 4. Connect HDMI looping output of the VEO Transmitters to local HDMI display.
- 5. Connect all Transmitters to network switch/router using Cat5e or Cat6 cables.
- 6. Connect all VEO Receivers and network switch/router using Cat5e/6 cables.
- 7. Connect HDMI displays and HDMI Receivers with HDMI cable.
- 8. Connect IR TX cable into "IR TX" port of the transmitter; Connect IR
- **9.** RX cable into "IR RX" port of the receiver. Then you can control source at the RX side with IR.
- **10.** Connect RS-232 cable from the PC or automation system to the RS-232 port of the Transmitter; Connect RS-232 cable from the Receiver to the RS-232 device to be controlled.
- **11.** Power on Transmitter and Receiver with adapter 5V 1A and power the switch. In case the switch supports PoE (Power over Ethernet), it will not be necessary to power the VEO devices locally.
- **12.** Choose correct ID Group as shown in the next chapter of this manual

The number of VEO Transmitters can't exceed 64 units. In a class C Network, total number of VEO devices (Transmitters and Receivers) can't exceed 253 units.

Please avoid connecting or disconnecting HDMI cables when VEO devices are powered on!



#### 8 GROUP ID SELECTION

In multiple sources scenario, each VEO Transmitter can stream a video signal over network using Group ID number that must be unique in the same network. Each Group ID **from 0 to 63** identifies a multicast address and every VEO Receiver can "listen" one of these channels. The Group ID for Transmitters is usually set once during the first installation steps while the receivers ID can change in order to show different content on the displays.

The Group ID can be selected in three different ways:

- Using the IR Remote Control
- Via Web browser
- Using Telnet
- 8.1 Group ID and RS-232 baud rate selection using IR Remote Control

#### 8.1.1 <u>Group ID</u>

The Group ID can be selected using the included IR remote control. Ensure that IR-Ext sensor is connected (refer to 5.1). The remote control can be used to change Group ID or RS-232 baud rate as explained below.



- Press button (1) to switch between Group ID and baud rate function
- When double-digit ID Group number is shown on the display, press "+" or "-" to select Group ID.
- Press the number keys to change Group ID. For example, if you need to change to 01, press "0", and then press "1".

Example:







#### 8.1.2 Baud Rate

The remote control can be used to change RS-232 baud rate.

- Press button (1) to switch between Group ID and baud rate function
- When the baud rate function (F0-F7) is shown, press "+" or "-" to select the desired communication speed:
  - F0 = 2400 (default)
  - F1 = 4800
  - F2 = 9600
  - F3 = 19200
  - F4 = 28800
  - F5 = 38400
  - F6 = 57600
  - F7 = 115200

#### 8.1.3 Special Functions

Pressing the 2 button for more than 3 seconds, will allow to factory reset the VEO devices. The LED display will start blinking and when it shows "00", the factory reset is successfully completed.

#### 8.2 Group ID and RS-232 baud rate Selection via Web Browser

When PC is connected to the same network as the VEO devices and it is in the same domain, the Group ID number of each device can be selected using the web page as well as RS-232 baud rate. To access the web page, just type the device IP address in your internet browser. The default credentials are:

- User name: admin
- Password: admin

#### 8.2.1 Transmitters ID Group:

#### Stream Setting:

Transfer: 
Multicast
Multicast IP: 00(239.255.42.42)
▼ Port: 5004



8.2.2 <u>Receivers ID Group:</u>

```
Multicast Group: Group 00(239.255.42.42) 
Port: 5004
Update
```

After changing the ID Group, please remember to validate the selection by pressing the "Submit" button on the Transmitter webpage or the "Update" button on the Receiver webpage.

#### 8.2.3 Transmitter and Receiver RS-232 baud rate

VEO-XTI1C and VEO-XRI1C provide full-duplex RS-232 pass-through from TX to RX or from RX to TX allowing the control of third party devices.

The communication will work properly when baud rate and data settings of Transmitter, Receiver and third party RS232 devices are the same.

The default baud rate of Transmitter and Receiver is 2400 but it can be changed through web page by selecting the desired value from 2400 to 115200 bps.

Uart Setting:

Baud Rate: 115200 🔻

The RS-232 pass-through works only when the same ID Group is selected.

#### 8.3 Group ID Selection via Telnet

The ID group can also be selected by opening a Telnet session with a standard Telnet terminal, using the port 9999.

When the session is open, send the command **set\_group\_id** *n* (where *n* is the number of the desired ID Group) followed by the carriage return and line feed (\r\n).

Example:

set_group_id 1	Group ID 01
set_group id 63	Group ID 63



#### 9 PC UTILITY SOFTWARE

When the included PC Utility software is installed, ensure that the PC and the VEO devices are on the same network domain.

Double-click on the icon to open software:



The Device Scan Page will appear:

IPTV Control Center tool 2.0 - Device Scan Page In Satur		95	12. I I I I I I I I I I I I I I I I I I I	×
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Output Mindov Tr Device: 1 IFTI		- Bu Device: O		

Press the "Start Scan" button to search for devices on the network.

Using "TX Setup Page" and "RX Setup Page" it is possible to modify several settings and parameters such as Device Name, Network Settings, Video Bitrate, Downscaling options, RS-232 baudrate, Group ID and perform a Device Reboot or a Factory Reset from remote.



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raneter Se	atup							
IP Setup				Bitrate		Downsea	le Setup	
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Netnask:	nask: 255 . 255 . 255 . D		HD: 12000		Khps		1 million	•
Gateway:	192 . 16B . L	1				HO	ЯП	•
DHCP:	0n		SD :	4000	Kbps		[JUD	•
lise Setup								
Group II	)			-Vart Baud	rate			Update
	0			2400			•	
-Stream (	lutput Path			Nac Addre	35			Reboot
Loopthrough and Fatwork Dutpu -				005930280193				
Device Nana								Firnvare Vpgrade
IFTX								

r Device Selection	-Rx Device Info Davice Name: Rx	IPRX 4.0.0.0.2		Device IP Encoder	7.1.2	D. 11.20160822
	Lan Status:	Link Vp	Video Loo	k: Unlock	HDCP:	Dff
aranətər Sətup						
IP Setup		leo Bitrste		Downscale	Setup	
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DHCP: On	SI	4000	Kbp s		λŬ	•]
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0		2400		-		
Stream Duipui Fath		Nac Ad	Idress			Reboot
Loopthrough and Network (	lutpu 💌	00393D2BCD93				
Device Name					Fire	ware Upgrade
IPEX						·

After making any changes please remember to press the "Update" button to save new settings.



#### 10 HOW TO RECEIVE STREAMING WITH VLC

The H.264 video streaming generated by VEO-XTI1C is multicast streaming that can be received using software like VLC (Video LAN Client).

- 1. Make sure the Transmitter and PC are on the same network domain.
- **2.** Connect HDMI Source without HDCP to the Transmitter HDMI input and Power on the device.
- **3.** Connect transmitter to the network.
- **4.** Check the multicast IP address related to the selected ID Group on the Transmitter Setting web page (refer to 7.2).

Stream Setting:

Transfer: Multicast Multicast IP: 00(239.255.42.42) 

Port: 5004

5. Open the VLC media Player, click "Stream"> "Network", Input "UDP: //@ 239.255.42.42 :5004"

Open File	C14+0	ools View Holp			
Open Multiple Files.	C14+9h	en+O			
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Open Disc	Ctrl+D				
Open Network Street	m. CH-N				
Open Capture Devic	e				
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Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.255 42.45 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	wice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.255 42.45 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.255 42.45 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	ntice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.255 42.45 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.255 42.45 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.255 42.45 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.255 42.45 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.255 42.45 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.2295.42.43 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239.2295.42.43 www.example.co 21234 set.example.co set.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udg://WG http://W mac//m ctip:// http://	Frotocol nter a netwo 239, 229, 42, 43 www.example.co server.example.co server.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udp://02 http://0 cip://0 macr//m citpp://0	Frotocol nter a netwo 239, 229, 42, 43 www.example.co server.example.co server.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en udg://WG http://W mac//m ctip:// http://	Frotocol nter a netwo 239, 229, 42, 43 www.example.co server.example.co server.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039	vice	•
Network I Please en Isdp://WG http://W rip://b ttp://b	Frotocol nter a netwo 239, 229, 42, 43 www.example.co server.example.co server.example.co	rk URL: 2:5094 m/stress.svi m/stress.sse .org:8080/tes	1.039		•

6. Click "Next".



Source Set up media sources to stream This wirard will allow you to stream or convert your media for your private network, or on the Internet. You should start by checking that source matches what you war and them press the "Bext" button to continue.	
your private network, or on the Internet. You should start by checking that source matches what you wan	
your private network, or on the Internet. You should start by checking that source matches what you wan	
	r your reput to be
Source: udp://239.255.42.42:5004	
Type: udp	
Eack	Next Cancel

7. Choose "RTP / MPEC Transport Stream" or "UDP".

tination Setup elect destinations to s	tream to
•	
	ving the streaming methods you need. He sure to check the format is compatible with the method used.
with transcoding that	File Add
	the format is compatible with the method used.

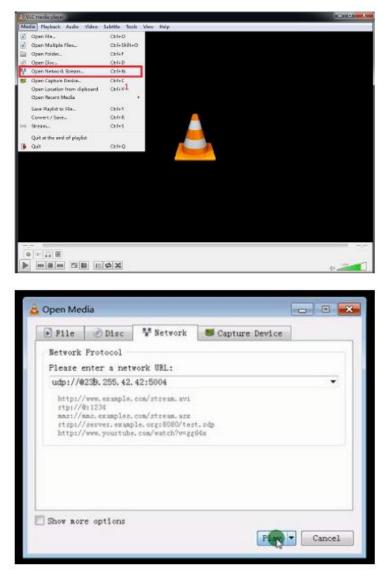
8. Click "Next"

🕹 Stream Output	
Transcoding Options Select and choose transco	ding options
Activate Transcoding	
Profile	Video - H. 264 + MP3 (MP4) 🔹 🐹 🔳
	Eack Cancel
	Dack Cancer

9. Click "Stream".



**10.** Click "Open Network Stream", then you can click "Play" to view the video.



#### **11 FACTORY RESET**

The VEO Factory reset can be performed using the PC Utility Software (8), using the remote control (7.1) or by pressing the reset button on the device for 10 seconds using a tiny pin while the unit is powered on. The default IP Address and all the factory parameters will be restored.





#### **12 TECHNICAL SPECIFICATIONS**

Supported Resolutions	1080p@24/25/29.97/30/50/59.94/60Hz,
	1080i@50Hz, 720p@50/59.94/60Hz, 576p, 576i@50Hz, 480p, 480i@59.94/60Hz
	Vesa Resolutions@60 Hz: 640×480,800×600,1024×768,1280×768,1280×96 0,1280×1024,1680×1050,1920×1080,1280×720, 1360×768,1400×1050
HDCP	1.4 Compliant
Network requirements	IGMP and Jumbo Frames compliance
Network Streaming bitrate	Up to 15Mbps per stream
Video latency	300-500 mS depending on network conditions
Default IP	TX: 192.168.1.11; RX: 192.168.1.12
Audio Formats	LPCM 2.0
Sample Rate	48kHz
Bitrate	24-bit
HDMI Distance	up to 10 meters (33 feet) with Ecler VEO cables
IR supported bandwidth	38 -56 KHZ
Operating Temperature	5°C - 35°C /41°F - 95°F
Humidity	5 - 90% RH (no condensation)
Power Consumption	3W Maximum (TX and RX)
Power Supply	AC100~240V 50/60Hz Output: DC 5V/1A
Dimensions H x W x D	28mm x 119mm x 80mm (4.69" x 3.15" x 1.1") (TX and RX)
Weight	280g (0.617 lbs)



## VEO-XTI1C / VEO-XRI1C VEO-XTI2L / VEO-XRI2L

# How to configure a Cisco SG300 Ethernet Switch for Ecler VEO over IP products



### QUICK START GUIDE



#### 13 HOW TO CONFIGURE A CISCO SG300 ETHERNET SWITCH INTRODUCTION

Due to the network requirements established by Audinate® for Dante™ Networks and taking in consideration the network requirements for our VEO over IP devices, this quick guide aims to explain how to configure the Cisco SG300 family of switches in order to make them compliant to these requirements. All the requirements are mandatory for every switch used in a Dante or VEO over IP system, independently by the brands.

#### 14 ESTABLISHING COMMUNICATION WITH THE CISCO ETHERNET SWITCH

- Connect your computer to the Cisco Ethernet Switch using an Ethernet cable. The Cisco SG300 Ethernet Switch comes with a default Static IP address of 192.168.1.254; you must configure your PC with a Static IP address in the same subnet.
- **2.** Set a Static IP address on your computer network interface card, such as 192.168.1.66 along with the following mask 255.255.255.0.
- Open your Internet browser and digit the default IP address of the switch: <u>http://192.168.1.254</u>. The Default User ID and Password for the unit is "Cisco".



#### **15 ENABLING IGMP PROTOCOL**

The IGMP Protocol is mandatory for the correct operation of the VEO over IP products in multicast configurations. Without IGMP the audio/video can't work properly or may freeze.

 Select Multicast → Properties. Enable the Bridge Multicast Filtering Status by activating the related selection box and clicking on Apply.

Small Business cisco SG300-10P 10-Port	Gigabit PoE Manage	ed Switch	cisco Language: English	Logout About Help
Getting Started   Status and Statistics  Administration	Properties			
► Port Management	Bridge Multicast Filtering Status:	Enable		
Smartport     VLAN Management	VLAN ID:	1.		
Spanning Tree     MAC Address Tables     Multicast	Forwarding Method for IPv6:	MAC Group Address     IP Group Address     Source Specific IP Group Address		
Autocast     Properties     MAC Group Address     IP Multicast Group Address     IGMP Snooping     MLD Snooping     IGMP/MLD IP Multicast Group     Multicast Router Port     Forward All     Unregistered Multicast     IP Configuration     Security     Access Control     Quality of Service     SNMP	Forwarding Method for IPv4:	MAC Group Address     P Group Address     Source Specific IP Group Address		
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2. Select Multicast  $\rightarrow$  IGMP Snooping. Enable the IGMP Snooping Status by activating the related selection box and clicking on Apply.

	IGMP Sno	oping							
Status and Statistics     Administration		oping							
Port Management	IGMP Snoopi	ng Status: 🔽	Enable						
Smartport	Apply	Cancel	7						
VLAN Management	Appiy	Cancer							
Spanning Tree	IGMP Snoopi	ng Table							
MAC Address Tables     Multicast	Entry No	o. VLAN ID	IGMP Snooping Operational Status	Router IGMP Version	MRouter Ports Auto Learn	Query Robustness	Query Interval (sec)	Query Max Response Interval (sec)	Last Mem Query Cour
Properties	С	1 1	Enabled	v3	Enabled	2	125	10	
MAC Group Address IP Multicast Group Address	Gopy S	ettings	Edit						
Forward All Unregistered Multicast									
IP Configuration									
P Configuration Security									
IP Configuration									
IP Configuration Security Access Control									
IP Configuration Security Access Control Quality of Service									
IP Configuration Security Access Control Quality of Service									
IP Configuration Security Access Control Quality of Service									
IP Configuration Security Access Control Quality of Service									

**3.** In the **IGMP Snooping Table**, select the default **VLAN ID 1** and click on **Edit**.

SG300-10P 10-Port	Gigabit Po	E Mar	aged Switch				<sup>je:</sup> English	Logou	t About Help
Getting Started	IGMP Snoo	ning							
<ul> <li>Status and Statistics</li> </ul>	IONIT ONOC	ping							
<ul> <li>Administration</li> </ul>	IGMP Snoopin	g Status: 🔽	Enable						
Port Management									
► Smartport	Apply	Cancel							
VLAN Management									
Spanning Tree	IGMP Snoopin								
MAC Address Tables	Entry No.	VLAN ID	IGMP Snooping	Router	MRouter Ports	Query	Query	Query Max Response	Last Memb
Multicast     Properties	9 1		Operational Status Enabled	IGMP Version	Auto Learn Enabled	Robustness 2	Interval (sec)	Interval (sec)	Query Count
MAC Group Address IP Multicast Group Address (GMP 5 Stooping) IGMP/MLD IP Multicast Group Multicast Router Port Forward All Unregistered Multicast IP Configuration Security Access Control Quality of Service SIMIP	Copy Se	tlings	Edit						
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4. In the resulting window, activate the related selection box for IGMP Snooping Status and verify that the Immediate Leave selection box is enabled and then click on Apply.

VLAN ID:	1		
IGMP Snooping Status:	Enable		Operational IGMP Snooping Status:
MRouter Ports Auto Learn:	🔽 Enable		
Query Robustness:	2	(Range: 1 - 7, Default: 2)	Operational Query Robustness:
Query Interval:	125	sec (Range: 30 - 18000, Default 125)	Operational Query Interval:
Query Max Response Interval:	10	sec (Range: 5 - 20, Default: 10)	Operational Query Max Response Interval:
Last Member Query Counter:	<ul> <li>Use Default</li> <li>User Defined</li> </ul>	(Range: 1 - 7, Default: 2 (Query Robustness))	Operational Last Member Query Counter:
Last Member Query Interval:	1000	mS (Range: 100 - 25500, Default: 1000)	Operational Last Member Query Interval:
Immediate leave:	Enable		
IGMP Querier Status:	🗖 Enable		
Administrative Querier Source IP Address:	G Auto		Operational Querier Source IP Address:
	O User Defined 16	58.168.1.1 💌	
IGMP Querier Version:	IGMPV2 IGMPV3		

 Select Administration → File Management → Copy/Save Configuration.
 Enable Running Configuration and Startup Configuration as shown below and save all changes by clicking Apply.

Small Business	😵 Save cisco Language: English 🗸 Logout About Help
cisco SG300-10P 10-Port Giga	
CISCO SG300-10P 10-Port Giga Getting Started  Status and Statistics  Administration  System Settings Console Settings Console Settings Management Interface User Accounts Idle Session Timeout Time Settings System Log File Management Upgrade/Backup Firmware/Language	//Save Configuration figurations that the switch is currently using are in the running configuration file which is volatile and is not retained between reboots. in the configuration between reboots, make sure you copy the running configuration file to the startup configuration file after you have completed changes. ce File Name: C Running configuration C Backup configuration C Mirror configuration C Mirror configuration C Startup configuration C Startup configuration C Startup configuration C Mirror configuration C Startup configuration C Mirror configuration C Startup configuration C Startup configuration C Mirror configuration C Mirr
Active Image Download/Backup Configuration/Log Configuration Files Properties Copy/Save Configuration DHCP Auto Configuration Reboot > Diagnostics Discover - Benjour	C Backup configuration      titve Data:     C Exclude     Encrypted     C Praintext     Available sensitive data options are determined by the current user's SSD rules      Icon Blinking:     Enabled      ply     Cancel     Disable Save Icon Blinking
Traceroute  Port Management	
Smartport	
VLAN Management	
Spanning Tree	
MAC Address Tables	
Multicast	
▶ IP Configuration	
Security	
<ul> <li>Access Control</li> </ul>	
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 Select Administration → File Management → Reboot, and click on the Reboot button to reboot the Ethernet switch and make all the changes running.

Small Business cisco SG300-10P 10-Port	Gigabit PoE Managed Switch	English	Logout	Help
Getting Started         • Status and Statistics         • Administration         System Settings         • Console Settings         • Management Interface         User Accounts         Idle Session Timeout         • Time Settings         • System Log         • File Management         Upgrade/Backup Firmware/Language         Active Image         Download/Backup ConfigurationLog         Configuration Files Properties         Copy/Save Configuration         DHCP Auto Configuration         Powers- Bonjour         > Discovery - Bonjour         > Discovery - CDP         Ping         Traceroute         > Port Management         > Spaning Tree         > MAC Address Tables         • Multicast         Properties         IP Oroup Address         IP Mac Group Address	Reboot         Success.         To reboot the device, click the Reboot button.         Reboot       Immediate         C Date Jan ¥ 01 ¥ Time 00 ¥ 00 ¥ HHHMM         C In 00 ¥ Days 00 ¥ Hours 00 ¥ Minutes         Restore to Factory Defaults         C Clear Startup Configuration File         Reboot       Cancel Reboot         Cancel			
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#### **16 ENABLING JUMBO FRAME**

**1.** Select **Port Management**  $\rightarrow$  **Port Settings**. Enable **Jumbo Frames** by activating the related selection box and click on **Apply**.

Getting Started <ul> <li>Status and Statistics</li> </ul>	Por	Setting	S									
Administration     Port Management     Port Settings	Jumbo Frames: 🔽 Enable Jumbo frames configuration changes will take effect after saving the configuration and rebooting the switch.											
Error Recovery Settings Loopback Detection Settings		Apply	Cance	1								
<ul> <li>Link Aggregation</li> <li>UDLD</li> </ul>	Рог	t Setting Tal	ble									
<ul> <li>PoE</li> <li>Green Ethernet</li> </ul>		Entry No.	Port	Description	Port Type	Operational Status	Link Status SNMP Traps	Time R Name	ange State	Port Speed	Duplex Mode	LAG
Smartport	0	1	GE1		1000M-Copper	Down	Enabled					-
VLAN Management	0	2	GE2		1000M-Copper	Up	Enabled			1000M	Full	
Spanning Tree	õ	3	GE3		1000M-Copper	Down	Enabled					
MAC Address Tables	0	4	GE4		1000M-Copper	Up	Enabled			100M	Full	
Multicast	0	5	GE5		1000M-Copper	Up	Enabled			100M	Full	
IP Configuration	0	6	GE6		1000M-Copper	Up	Enabled			100M	Full	
Security	ŏ	7	GE7		1000M-Copper	Down	Enabled					
Access Control	Õ	8	GE8		1000M-Copper	Down	Enabled					
Quality of Service	Õ	9	GE9		1000M-ComboC	Down	Enabled					
SNMP	0	10	GE10		1000M-ComboC	Down	Enabled					
		Copy Set	tings	Edit	L.,							



#### **17 CONFIGURING THE DHCP SERVER**

The DHCP Server will automatically configure the IP addresses of each device connected to the switch. All the devices need to be set as DHCP client in their own Network Configuration page. This allows avoiding any conflict between devices.

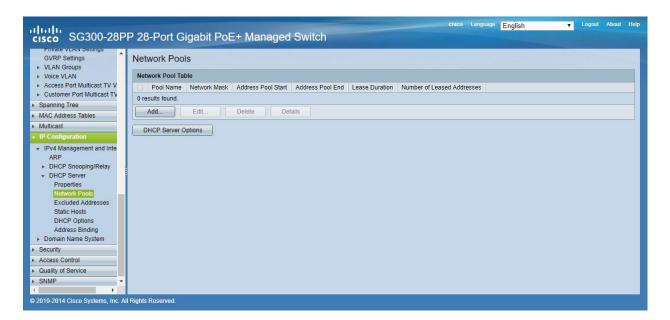
*Note:* Please check VEO user manual for IP configurations of each product, accordingly to your installation needs.

1. To change the Ethernet Switch Static IP address to the same subnet as the AV over IP Devices, select Administration → Management Interface → IPv4 Interface. Set IP Address Type to Static, and enter the IP Address (accordingly to your network requirements), and set the Network Mask to 255.255.255.0. In this case we e default IP address. After applying these settings you need to change the IP address on your computer network interface card to the same subnet just set above.

cisco SG300-28P	P 28-Port Gigabit PoE	-+ Managed Switch	cisco Language: English	c <b>v</b> Logout About Help
Getting Started    Status and Statistics	IPv4 Interface			· · · · · · · · · · · · ·
Administration     System Settings     Console Settings     Management Interface     IPv6 Interface     IPv6 Interface     IPv6 Interface     IPv6 Addresses     IPv6 Addresses	Management VLAN: IP Address Type: © IP Address: © Mask:	1 ▼		
IPv6 Tunnel IPv6 Neighbors IPv6 Prefix List IPv6 Routes User Accounts Idle Session Timeout > Time Settings	Loopback Interface: 42 Loopback IP Address: 42 Loopback Mask:	Enable     Network Mask     Prefix Length     (Range: 8 - 32)		
System Log     File Management     Reboot     Diagnostics     Discovery - Bonjour     Discovery - LLDP     Discovery - CDP     Pin     @ 2010-2014 Cisco Systems, Inc. Al	Administrative Default Gateway: Operational Default Gateway: Renew IP Address Now: Auto Configuration via DHCP: Il Rights Reserved.	User Defined None Enable Enabled		



2. Select IP Configuration  $\rightarrow$  DHCP Server  $\rightarrow$  Network Pools and click on the Add... button



3. Set the Pool Name, the Network Mask (255.255.255.0), the Address Pool Start (192.168.1.10), and the Address Pool End (192.168.1.100). Verify that you allocate enough IP addresses for all Transmitters and Receivers present on the network.

Pool Name:	VEO Addresses 🔻	
Subnet IP Address:		
🗱 Mask:	Network Mask 255.2	55.255.0
	O Prefix Length	(Range: 8 - 30)
Address Pool Start:	192.168.1.10	
Address Pool End:	192.168.1.100	
Lease Duration:	<ul> <li>Infinite</li> </ul>	
	O Days 1 Hours	B 00 Y Minutes 00 Y (Default: 1 Day)
Domain Name (Opti NetBIOS WINS Serv NetBIOS Node Type	ver IP Address (Option 44): (Option 46):	<ul> <li>Hybrid</li> <li>Mixed</li> <li>Peer-to-Peer</li> <li>Broadcast</li> </ul>
SNTP Server IP Add	dress (Option 4):	None v
File Server IP Addre	ess (siaddr):	
File Server Host Nar	me (sname/Option 66):	(0/64 characters used)
Configuration File Na	ame (file/Option 67):	(0/128 characters used)
Apply Clos	e	

Click on the **Apply** button.



cisco SG300-28P	P 28-Port Gigabit PoE+ Managed Switch
Error Recovery Settings Loopback Detection Setting Link Aggregation	Network Pools
<ul> <li>UDLD</li> </ul>	Network Pool Table
▶ PoE	Pool Name     Network Mask     Address Pool Start     Address Pool End     Lease Duration     Number of Leased Addresses
Green Ethernet	VEO Addresses 255.255.255.0 192.168.1.10 192.168.1.10 Infinite 0
<ul> <li>Smartport</li> <li>VLAN Management</li> </ul>	Add Edit Delete Details
Default VLAN Settings VLAN Settings	DHCP Server Options
Interface Settings	
Port to VLAN Port VLAN Membership	
Private VLAN Settings	
GVRP Settings	
VLAN Groups	
▹ Voice VLAN	
Access Port Multicast TV V	
Customer Port Multicast TV	
Spanning Tree     MAC Address Tables	
MAC Address Tables     Multicast	
<ul> <li>IP Configuration</li> </ul>	
a construction of the second se	
<ul> <li>IPv4 Management and Inte</li> <li>APP</li> </ul>	
4	
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 Select IP Configuration → IPv4 Management and Interfaces → DHCP Server → Properties.

Enable the **DHCP Server Status** by activating the related selection box and clicking on **Apply**.

Small Business SG300-10P 10-Port	cisco Language: English Logout About Hep Gigabit PoE Managed Switch
	English
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 Select Administration → File Management → Copy/Save Configuration.
 Enable Running Configuration and Startup Configuration as shown below and save all changes by clicking Apply.

Small Business SG300-10P 10-Port	Save cisco Language: English Sugart About Help
Cetting Started    Status and Statistics    Status and Statistics   System Settings Console Settings	Copy/Save Configuration All configurations that the switch is currently using are in the running configuration file which is volatile and is not retained between reboots. To retain the configuration between reboots, make sure you copy the running configuration file to the startup configuration file after you have completed all your changes.
<ul> <li>Management Interface</li> <li>User Accounts</li> <li>Idle Session Timeout</li> <li>Time Settings</li> <li>System Log</li> </ul>	Source File Name: C Running configuration C Startup configuration C Backup configuration C Mirror configuration
<ul> <li>File Management</li> <li>Upgrade/Backup Firmware/Language</li> <li>Active Image</li> </ul>	Destination File Name: C Running configuration C Startup configuration C Backup configuration
Download/Backup Configuration/Log Configuration Files Properties CopySave Configuration DHCP Auto Configuration Reboot	Sensitive Data: C Exclude C Encrypted Plaintext Available sensitive data options are determined by the current user's SSD rules Save Icon Blinking: Enabled
Diagnostics     Discovery - Bonjour     Discovery - LDP     Discovery - LDP     Discovery - CDP     Ping     Traceroute	Apply Cancel Disable Save Icon Blinking
<ul> <li>Port Management</li> </ul>	
Smartport	
VLAN Management	
Spanning Tree     MAC Address Tables	
MAC Address Tables      Multicast	
IP Configuration	
<ul> <li>Security</li> </ul>	
Access Control	
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6. Select Administration  $\rightarrow$  File Management  $\rightarrow$  Reboot, and click on the Reboot button to reboot the Ethernet switch and make all the changes running.

Small Business	cisco Language: English 🗾 Logout About Help
cisco SG300-10P 10-Port	Gigabit PoE Managed Switch
Cisco SG300-10P 10-Port  Cetting Started  Status and Statistics  Administration  System Settings Console Settings Management Interface User Accounts Idle Session Timeout Time Settings System Log File Management Uggrade/Backup Firmware/Language	Gigabit PoE Managed Switch  Reboot  Success.  To reboot the device, click the Reboot button.  Reboot if Immediate  C Date Jan Y O1 Y Time O0 Y O0 Y HHHMM C In O0 Y Days O0 Y Hours O0 Y Minutes  Restore to Factory Defaults
Active Image Download/Backup Configuration/Log Configuration Files Properties Copy/Save Configuration DHCP Auto Configuration Reboot > Diagnostics Discovery - Bonjour > Discovery - LLDP > Discovery - CDP Ping	Clear Startup Configuration File  Reboot Cancel Reboot Cancel
Traceroute	
<ul> <li>Port Management</li> </ul>	
Smartport	
VLAN Management     Spanning Tree	
Spanning Tree     MAC Address Tables	
MAC Address rables     Multicast	
Properties MAC Group Address IP Multicast Group Address	
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## VEO-XTI1C / VEO-XRI1C VEO-XTI2L / VEO-XRI2L

How to configure D-Link DGS-1210 Ethernet Switch for Dante™ Networks and VEO over IP products



### QUICK START GUIDE



#### 18 HOW TO CONFIGURE D-LINK DGS-1210 ETHERNET SWITCH INTRODUCTION

Due to the network requirements established by Audinate® for Dante™ Networks and taking in consideration the network requirements for our VEO over IP devices, this quick guide aims to explain how to configure the D-Link DGS-1210 family of switches in order to make them compliant to these requirements. All the requirements are mandatory for every switch used in a Dante or VEO over IP system, independently by the brands.

#### **19 ESTABLISHING COMMUNICATION WITH D-LINK ETHERNET SWITCH**

- Connect your computer to the D-Link Ethernet Switch using an Ethernet cable. D-Link DSG-1210 Ethernet Switches come with a default Static IP address of 10.90.90.90;
- **5.** Configure your PC with a Static IP address in the same subnet such as 10.90.90.66, with subnet mask 255.0.0.0.
- 6. Open your Internet browser and type the default IP address of the switch: <u>http://10.90.90.90</u>. The default **Password** is "admin".

#### **20 ENABLING IGMP PROTOCOL**

Internet Group Management Protocol (IGMP) is mandatory for the correct operation of VEO over IP products when they are configured as multicast devices. Without IGMP enabled, audio/video signal can't be transmitted properly or it may freeze.

With IGMP snooping, the Smart Managed Switch can make intelligent multicast forwarding decisions by examining the content of each frame's Layer 2 MAC header. IGMP snooping can help reduce cluttered traffic on the LAN. With IGMP snooping enabled, the Smart Managed Switch will forward multicast traffic only to connections that have group members attached.

- 7. Select L2 Function→Multicast→IGMP Snooping
- 8. Enable IGMP Snooping by activating the related selection box and clicking on Apply.

DGS-1210-24P	IGMP Snooping Configuration		🤤 Safeguard
VLAN     Jumbo Frame     Jumbo Frame     Port Mirroring     MAC Address Table     MAC Address Table     MAC Address Table     MAC Address Table     Milticast	IGMP Snooping Global Settings IGMP Snooping Host Timeout (130-153025) Robustness Variable (2-255) Query Interval (60-600)	Enabled Disabled Report to a     260 sec Router Timeout (60-600)     Last Member Query Interval     125 sec Max Response Time (10-25)	125 sec (1-25) 1 sec
IGMP Snooping     MLD Snooping     Multicast Forwarding	When Querier state is enabled, the Host Ti (Host Timeout = Robustness Variable * Queries)		Apply



**9.** Select **Save** in the upper left corner and press **Save Config** button in order to ensure that all changes are saved as current configuration in use.

💾 Save 🖵	🐔 Tools	- I	🏟 Wizaro	1 [ 👔 H	lelp 🚽	- * <u>*</u> *	Surveillance Mode				
DGS-1210-24P		_	S	ave Con	figura	tion					
ULAN	rame		P	lease press t	he butto	n to sav	e the config of device.	config_	_id 1 ▼	Save Config	

#### 21 ENABLING Jumbo Frame

D-Link Gigabit Smart Managed Switches support jumbo frames (frames larger than the Ethernet frame size of 1536 bytes) of up to 9216 bytes (tagged). It is disabled by default.

#### 2. Select L2 Function $\rightarrow$ Jumbo Frame

DGS-1210-24P	Device Information				Safeguard
System VLAN L2 Functions Jumbo Frame Port Mirroring Loopback Detection	Device Information Device Type Boot Version Firmware Version	DGS-1210-24P Gigabit Ethernet Switch 1.00.001 7.00.8006	System Name System Location System Time	01/01/2017 00:01:26	Sareguard
<ul> <li>MAC Address Table</li> <li>Spanning Tree</li> <li>Link Aggregation</li> </ul>	Hardware Version	G1	System Up Time	0 days , 0 hours , 2 mins , 16 seconds	
Multicast     SNTP     LIDP	Serial Number MAC Address	S3E21HB000020 78-32-1B-FF-30-9A	Login Timeout (minutes)	5	
ELCP     LCP     LSFunctions     GoS     GoS     Socurity     AAA     ACL     PoE     SNMP     Monitoring	IP Address Information IPv4 Address Subnet Mask Default Gateway IPv6 Global Unicast Address IPv6 Link-Local Address	10.90.90.90 255.0.0.0 0.0.0.0			
	Device Status and Quick C RSTP		NMP Status D	isabled <u>Settings</u>	
	Port Mirroring Storm Control	Disabled Settings	Safeguard Engine Ei	isabled <u>Settings</u> nabled <u>Settings</u>	
	DHCP Client Jumbo Frame			isabled <u>Settings</u> nabled Settings	

3. Enable Jumbo Frame by activating the related selection box and click on Apply.

DGS-1210-24P	Jumbo Frame Settings	🤗 Safaguard
VLAN     Junbo Frame     Port Mirroring	Jumbo Frame   Enabled  Disabled  Maximum Length is 10000 bytes.	Apply
Loopback Detection		



**4.** Select **Save** in the upper left corner and press **Save Config** button in order to ensure that all changes are saved as current configuration in use.

💾 Save 🗸 🌋 Tools 🗸	🗚 Wizard 🛛 🛞 Help 🚽 🏘 Surveillance Mode	
DGS-1210-24P ⊕-∭ System	Save Configuration	
Def VLAN Def L2 Functions Units Frame Port Mirroring	Please press the button to save the config of device.	config_id 1 ▼ Save Config

#### 22 Disabling POWER Saving and EEE (Energy Efficient Ethernet)

In order to prevent audio or video drops out, all the power saving features need to be disabled. This is a mandatory requirement for Dante<sup>™</sup> Networks.

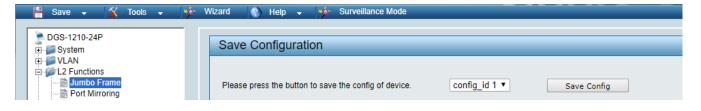
- **1.** Select System  $\rightarrow$  Power Saving
- 2. On Global Settings disable Cable Length Detection/Link Status Detection and press Apply

	Power Saving Settings		😑 Safeguard
System Settings     Password     Port Settings     Port Description	Global Settings Cable Length Detection/Link Status Detection	C Enabled	Apply

**3.** Select **IEEE802.3az EEE settings** and ensure that the feature is disabled on the ports where Dante or VEO devices are connected

DGS-1210-24P ⊟-∭ System	IEEE802.3a	z EEE settings		😑 Safeguard
→     System Settings       →     Password       →     Port Settings       →     Port Description       →     DHCP Auto Configuration       ⊕     DHCP Relay       →     DHCP Relay       →     DHCP Local Relay Settings	From Port	To Port 28 • E settings	State Disabled	Apply
DHCPv6 Relay Settings	Port	State		
System Log Configuration	1	Disabled		
Time Profile	2	Disabled		
- Power Saving	3	Disabled		
IEEE802.3az EEE settings	4	Disabled		
ELECOZ.SAZ ELE Settings	5	Disphled		

**4.** Select **Save** in the upper left corner and press **Save Config** button in order to ensure that all changes are saved as current configuration in use.





## 23 CREATING VLANS FOR DANTE™, VIDEO OVER IP AND CONTROL COEXISTENCE

In AV system where Dante<sup>™</sup> and Video over IP traffic are sharing the same network switch, VLANs are highly recommended because Video over IP could interfere with Dante<sup>™</sup> in the same network.

A VLAN allows isolating the network traffic of a predefined group of ports; in case of Audio and Video systems we need to create two VLANs: one for Audio and one for Video. In this case, a device connected to the Audio VLAN can't communicate with a device connected to the Video VLAN.

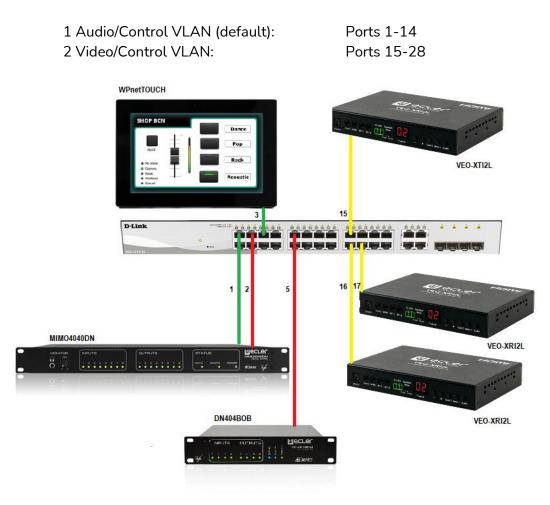
When a control device (like a touch panel) is required, it needs to communicate both with Audio and Video devices; in this case we need to use a particular feature called Asymmetric VLAN that allows sharing traffic between different VLANs only on predefined ports.

In the following example (Fig. 1) we have:

- MIMO4040DN matrix with Dante<sup>™</sup> (Control on **port 1**; Dante on **port 2**)
- WPNETTOUCH (Control on port 3)
- DN404BOB (Dante/Control on port 5)
- VEO-XTI2L (Video/Control on port 15)
- VEO-XRI2L (Video/Control on port 16)
- VEO-XRI2L (Video/Control on port 17)



We need to create 2 VLANs like follows:





5. Select VLAN → 802.1Q VLAN, enable Asymmetric VLAN and click on Apply



6. Click on <u>1</u> and mark as Untagged all the Audio/Control VLAN ports (1-14), adding the Video/Control VLAN ports that need to share Control (16-17). Click on the **Apply** button.

DGS-1210-24P System	VID Setting	js													😑 Sa	feguard
VLAN     802.1Q VLAN     802.1Q VLAN     802.1Q VLAN	VID	1														
Voice VLAN	VLAN Name	default								l	Bac	ĸ	Apply			
Auto Surveillance VLAN	Port	Select All	01	02	03	04	05	06	07	08	09	10	11	12	13	14
- L2 Functions	Untagged	All	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲
E L3 Functions	Tagged	All														
QoS	Not Member	All														
- Security	Port	Select All	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AAA	Untagged	All	0	۲	۲	0	0	0	0	0	0	0	0		0	0
ACL	Tagged	All	ŏ	ŏ	ŏ	Ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ
PoE SNMP	Not Member	All	Ō	ŏ	ŏ	Ō	Ō	Ō	Ō	Ō	•	Ō	Ō	•	Ō	Ō
Monitoring																



7. Create a second VLAN for Video/Control by clicking on Add button

DGS-1210-24P	802.1Q	Asymmetric VLA	N Settings		🥚 Safeguard
VLAN     802.10 VLAN     802.10 VLAN     Voice VLAN     Voice VLAN     Auto Surveillance VLAN	Total stat	ic VLAN entries: 1	Enabled      Disabled		Apply
E L2 Functions	🥕 Maxim	um 256 entries.			
E L3 Functions	VID	VLAN Name	Untagged	Tagged	Delete
😟 🃁 🃁 QoS	1	default	01-14,16-17		Delete
🗈 📁 Security					
i AAA					
ACL					
E I SNMP					
Monitoring					
I ⊞ I I I I I I I I I I I I I I I I I I					

**8.** Assign 2 as VID, and Video as Name to the new VLAN; mark as Untagged all the Video/Control VLAN ports (15-28), adding the Audio/Control VLAN ports that need to share Control traffic (1-3). Click on the **Apply** button.

DGS-1210-24P	VID Setting	js													) Se	afeguar
VLAN	VID VLAN Name Maximum 20		'ideo											Back		Apply
L2 Functions	Port	Select All	01	02	03	04	05	06	07	08	09	10	11	12	13	14
L3 Functions	Untagged	All	۲	0	۲	0	0	0	0	0	0	0	0	0	0	0
QoS Security	Tagged	All	•	•												
AAA	Not member	All		۲		۲	۲	۲	۲	۲	۲	۲	۲	۲	•	۲
ACL	Port	Select All	15	16	17	18	19	20	21	22	23	24	25	26	27	28
PoE	Untagged	All	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲
SNMP	Tagged	All		•								•	•	•		•
Monitoring	Not member	All														

**9.** Select **Save** in the upper left corner and press **Save Config** button in order to ensure that all changes are saved as current configuration in use.





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All product characteristics are subject to variation due to production tolerances. **NEEC AUDIO BARCELONA S.L.** reserves the right to make changes or improvements in the design or manufacturing that may affect these product specifications

For technical queries contact your supplier, distributor or complete the contact form on our website, in <u>Support / Technical requests</u>.

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