

# 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.

All ECLER products are covered by warranty, please refer to <u>www.ecler.com</u> or the warranty card included with this product for the period of validity and conditions.

#### **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.

eraut IP address: 192	168	1		. 12
efault Netmask: 255	255	. 255		0
efault Gateway: 192	168	. 1	1	1
fubicast Group: Group 01 Update	(239.255.4	42.43)		Port: 5004
art Baud Rate: 115200	1			

#### 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	r tool 2.0 - Syste	m IP(192.168.1.63)	100	12	
Scan Setup Device Scan Device Scan Fina	Ix Setup Fage	En Setup Fage Secondx		Start Scan	
Output Mindow -7x Bevice: 1 IPTI			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.



Device So CPTX	election.	-Tw Device In Device Mane: Tw Lan Status:	fo I 4 1	FIX . O. D. O. 2016 ink Vp	j0622 Video Loc	Device Encoder k: Unlo	LP: ck	152.168.1.11 7.1.2.0.11.20160622 HDCP: Off
raneter Se	atup							
IP Setup			'i dec	Bitrate		Downsea	le Setup	
IP:	192 .168 . l	. 11	THD:	15000	Kbps	Full	2.11 10	-
Netnask:	255 . 255 . 255	D	HD:	12000	Khps	HT	1 min	•
Gateway:	192 . 16B . L	1				HO	ໂທ	
DHCP:	0n		SD :	4000	Khps		L'UD	•
lise Setup								
Group II	)			-Vart Baud	rate			Update
	0			2400			•	
-Stream (	utput Path			Nac Addre	35			Reboot
Loop	through and Fetwork	Dutpu 💌		00393028	CI193			
Device b	lane							Firnvare Vpgrade
IFTX								

: Device Selection	-Ex Device Inf Device Name:	io Il	FRI		Device	IP:	192. 168. 1. 12	
IPRX •	nx Lan Status:	4. Li	.0.0.0.2016 ink Vp	U622 Video Lo	ck: Unlo	ck	HDCP: Off	UBZZ
arsneter Setup								
IP Setup	Vi	i dec FHD:	Bitrste 19000	Kbus	Downses	le Setup		
IP: 192 . 168 . 1	. 12		10000	_	Full	Full H	•	]
Netnask: 255 . 255 . 255	. 0	HD :	12000	Kbp s				
Gateway 122 168 1	. 1	SD :	4000	Kbp s	HD:	HD	-	1
DHCP: On			40.0					
Nisc Setup							<u></u>	
Group ID			Vart Baud	rate		100	Vpdate	
0			2400			•		-
Stream Dutput Path			Nac Addre	55			Reboot	
Loopthrough and Network	: Outpu 💌		00393028	CD93				_
Device Name							Firmare Upgra	ade
TPEN .								1

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"

	C14+0	-	_
Open Multiple Files	Ctd+9-8h+0		
Open Folder.	Ctd+F		
Open Disc	Ctrl+D		
Open Network Stream.	CH+N		
Open Capture Device	C16+C		
Open Location from cliptic	and Ctd+V		
Open Recent Media	•		
Save Playfix to File	CHAY		
Convert/Savo.	Ctd+R		
Gream.	Cel-S		
Quit at the end of playlist			
Quit	Ctri+Q		
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Betwork From Please enter udp://0239.	Disc ¥ Netwo socol * a network URL: 295 42.42:5004	rk 🛛 🦉 Capture Device	•
File Network From Please enter udp://0239. http://www.	Disc Vetwo socol * a metwork URL: 295 42.42:5004 eraspla.com/strass	rk Expture Device	•
File Network Prov Please enter udp://0239. http://02125	Disc Verve cool t a network URL: 295 42.42:5004 example.cos/stress.	rk 🛛 🗰 Capture Device	•
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File Network Froi Flease enter udp://0239. http://0239. sast/mnc.e stspc//setr http://www.	Disc * Netvo socol t a netvork URL: 298.42.42:5004 eranple.com/stream er.emaple.com/stream er.emaple.com/stream	rk Capture Device	
File Network Prot Please enter udp://W239. http://www. cip://www. http://www.	Disc * Netwo cool cool 2985 42.42:5004 example.com/stream. g mapler.com/stream. com/stream. yourtube.com/watch/	rk Capture Derice	•
File Network From Please enter Idp://0239. http://www. rip://www. ripc//sect http://www.	Disc * Netvo socol * 4 network URL: 298.42.42:5004 erample.com/stream er.emaple.org:000 yourtable.com/watch/	rk Capture Device	•
File Network Prof Please enter udp://0239. http://www. cip://www. http://www.	Disc * Netwo cool cool 2995 42.42:5004 example.com/stream. g mample.com/stream. c.comaple.com/stream. g yourtube.com/watch/	rk Capture Derice	•
File Network Prot Please enter Indp://0239. http://www. rip://eir3 msip//sere http://www.	Disc * Netvo socol * 4 network URL: 255.42.42:5004 example.com/stream gr.emaple.org:408 yourtube.com/watch/	rk Capture Device	•
File Network Frod Please enter udp://0239. http://000. ctp://0123 asto//mer. http://www.	Disc * Netwo socol : a network URL: 295 42,42:5004 example.com/stream. 4 mampler.com/stream. er.example.cr:8080 yourtube.com/watch/	rk Capture Device and Vest. sdp Wegishe	•
File Network Prot Please enter udp://0239. http://www. rip://0213 matrix/mer.e http://www.	Disc * Netvo socol * 4 netvozk URL: 295.42.42:5004 example.com/stream gr.emaple.org:808 yourtable.com/watch/	rk Capture Device	•
File Network From Flease enter Isdp://0239. http://02	Disc * Netvo socol * a network URL: 295 42.42:5004 example.com/stream. er.example.org:000 yourtube.com/watch/	rk Capture Device and Vest. sdp wegiste	•
File Network From Please enter udp://0239. http://0239. http://0239. http://0209	Disc * Netvo socol * 4 netvozk URL: 295.42.42:5004 erasple.com/stream gr.emaple.org:808 yourtable.com/watch/	rk Capture Device	•
File     File     Network From     Flease enter     isdp://0239.     http://www.     risp://www.     isdp://www.     isdp://wwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwww	Disc * Netvo socol * 4 network URL: 295.42.42:5004 example.com/stream. er.example.org:000 yourtube.com/watch/	rk Capture Device	•
File Network From Please enter udp://www. rip://www. rispc//secu http://www.	Disc * Netvo sool * a netvork URL: 295.42.42:5004 example.com/stream gr.emaple.org:808 yourtable.com/watch/	rk Capture Device	•
File     File     Network From     Flease enter     isdp://0239.     http://www.     risp://wire.a     stipp//serv     http://www.	Disc * Netvo socol * 4 network URL: 295.42.42:5004 example.com/stream. er.example.org:000 yourtube.com/watch/	rk Capture Device	•
File Network From Please enter Indp://www. rtp://www. rtp://www. rtp://www. rtp://www.	Disc * Netvo socol * 4 network URL: 255.42.42:5004 example.com/stream er.emaple.org:408 yourtube.com/watch/	rk Capture Device	•
File Network From Flease enter Isdp://0239. http://0239. http://0239. http://0299. http://02	Disc * Netvo socol : a network URL: 295 42.42:5004 example.com/stream er.example.org:000 yourtube.com/watch/ tions	rk Capture Derice	
File Network From Please enter Indp://0239. http://0000 ctp://0200 http://0000 ctp://0200 http://0000 Show acro op	Disc * Netwo socol * 4 network URL: 255.42.42:5004 example.com/stream er.emaple.org:408 yourtube.com/watch/	rk Capture Device	•
File Retwork From Please enter udp://0239. http://0239. http://00703 ner//mre.a stipc//setw http://www.	Disc * Netvo socol : 4 network URL: 295.42.42:5004 example.com/stream. 6 societations er.emaple.org:000 yourtube.com/watch/ tions	rk Capture Device	· Cancel

6. Click "Next".



Stream Output	3
Source Set up media sou	mces to stream
This wigard wil	l allow you to stream or convert your media for use locally, on
your private ne You should star	twork, or on the Internet. t by checking that source matches what you want your imput to be
and then press	the 'Next' button to continue.
Source: uth://	239. 285. 42. 42:5004
Source: udp:// Type: udp	239. 295. 42. 42:5004
Source: udp:// Type: udp	239. 255. 42. 42:5004

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

tination Setup elect destinations to s	itream to
•	
idd daatlaatlaan falla	
with transcoding that	wing the streaming methods you need. Be sure to check the format is compatible with the method used.
With transcoding that	wing the streaming methods you need. He sure to check the format is compatible with the method used.
New destination  Few destination  Display locally	File HTP RS-MRSP (MRST) RTSP

8. Click "Next"

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

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 (W x H x D)	VEO-XTI1C: 120 x 30 x 80 mm / 4.72 x 1.18 x 3.15 in. VEO-XRI1C: 119 x 28 x 80 mm / 4.69 x 1.1 x 3.15 in.
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	d 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     Millionat	Forwarding Method for IPv6:	MAC Group Address     IP Group Address     Source Specific IP Group Address		
Aduncest     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     IP 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.

Small Business cisco SG300-10P 10-Port	Gigabit Pc	E Mar	naged Switch		-	cisco Langua	<sup>ge:</sup> English	Logout	About Help
Getting Started <ul> <li>Status and Statistics</li> </ul>	IGMP Snoo	ping							
Administration     Port Management	IGMP Snooping	g Status: 🔽	Enable						
Smartport     VLAN Management	Apply	Cancel							
Spanning Tree     MAC Address Tables	Entry No.	VLAN ID	IGMP Snooping	Router	MRouter Ports	Query	Query	Query Max Response	Last Memb
Properties MAC Group Address	C 1	1 tinns	Enabled	V3	Enabled	2 Robustness	125	10	Query Count
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									
	4								Ľ

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

Small Business CISCO SG300-10P 10-Por	rt Gigabit Po	E Mar	aged Switch				<sup>ge:</sup> English	Logou	: About Help
Getting Started	ICMD Shop	ning							
<ul> <li>Status and Statistics</li> </ul>	IGIVIP SHOO	ping							
Administration	IGMP Snooping	Status: 🔽	Enable						
Port Management									
Smartport	Apply	Cancel	٦						
VLAN Management			~						
Spanning Tree	IGMP Snooping	Table							
MAC Address Tables	Entry No.	VLAN ID	IGMP Snooping	Router	MRouter Ports	Query	Query	Query Max Response	Last Memb
✓ Multicast			Operational Status	IGMP Version	Auto Learn	Robustness	Interval (sec)	Interval (sec)	Query Count
Properties	• 1								
MAC Group Address	Copy Set	tinas	Edit					-	
IP Multicast Group Address									
IGME Shooping									
ICMP/MI D IP Multicent Crown									
Multicast Router Port									
Forward All									
Unregistered Multicast									
► IP Configuration									
▶ Security									
Access Control									
<ul> <li>Quality of Service</li> </ul>									
▶ SNMP									
	4								
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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 <u>×</u>	
IGMP Querier Version:	GIGMPV2		

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



 Select Administration → File Management → Reboot, and click on the Reboot button to reboot the Ethernet switch and make all the changes running.

Small Business	Circohit DoE Managod Switch		English	Logout	Help
CISCO SG300-10P 10-Port	Gigabit POE Managed Switch Reboot Success.				
Wangedmannande     User Accounts     Idle Session Timeout     Time Settings     System Log     File Management     Upgrade/Backup Firmware/Language     Active Image     Download/Backup Configuration/Log	Reboot the device, cick the Reboot buildin. Reboot C Immediate C Date Jan Y 01 Y Time 00 Y 00 Y HH:MM C In 00 Y Days 00 Y Hours 00 Y Minutes Restore to Factory Defaults C Clear Startup Configuration File				
Configuration Files Properties Copy/Save Configuration DHCP Auto Configuration Rebool > Diagnostics Discovery - Bonjour > Discovery - LLDP	Reboot Cancel Reboot Cancel				
Discovery - CDP     Ping     Traceroute     Port Management     Smartport     Valuatement					
VLAN Management     Spanning Tree     MAC Address Tables     Multicast     Properties					
MAC Group Address IP Multicast Group Address © 2010-2013 Cisco Systems, Inc. All Rights Reso	irved.				



### **16 ENABLING JUMBO FRAME**

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

cisco SG300-10P	10-1	⊃ort Gi	gabit	PoE Ma	anaged Swi	cisco tch	Language: Er	nglish		~			
Getting Started  Status and Statistics	Por	t Setting	s										
<ul> <li>Administration</li> <li>Port Management</li> <li>Port Settings</li> </ul>	Jur Jur	nbo Frames nbo frames	: 🔽 Er	nable ation changes	will take effect after	saving the configuration	on and rebootin	g the swit	ch.				
Error Recovery Settings Loopback Detection Settings		Apply	Cance	1									
<ul> <li>Link Aggregation</li> <li>UDLD</li> </ul>	Рог	t Setting Tal	ble										
► PoE		Entry No.	Port	Description	Port Type	Operational Status	Link Status	Time R	ange	Port	Duplex	LAG	F
<ul> <li>Green Ethernet</li> </ul>							SNMP Traps	Name	State	Speed	Mode		
<ul> <li>Smartport</li> </ul>	0	1	GE1		1000M-Copper	Down	Enabled						U
<ul> <li>VLAN Management</li> </ul>	0	2	GE2		1000M-Copper	Up	Enabled			1000M	Full		U
<ul> <li>Spanning Tree</li> </ul>	0	3	GE3		1000M-Copper	Down	Enabled						U
MAC Address Tables	0	4	GE4		1000M-Copper	Up	Enabled			100M	Full		U
Multicast	0	5	GE5		1000M-Copper	qU	Enabled			100M	Full		U
IP Configuration	ŏ	6	GE6		1000M-Copper	Up	Enabled			100M	Full		U
<ul> <li>Security</li> </ul>	ŏ	7	GE7		1000M-Conner	Down	Enabled						LI
Access Control	0	8	GE8		1000M-Copper	Down	Enabled						-11
<ul> <li>Quality of Service</li> </ul>		a	GEQ		1000M-ComboC	Down	Enabled						11
► SNMP		10	GE10		1000M-CombeC	Down	Enabled						11
		Copy Set	tings	Edil		Down	Lilableu						
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#### **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	Carl Logout About Help
Getting Started    Status and Statistics	IPv4 Interface			*
Administration System Settings Console Settings     Management Interface     IPv6 Interface     IPv6 Interface     IPv6 Interfaces     IPv6 Addresses     IPv6 Addresses	Management VLAN: IP Address Type: SIP Address: Mask:	1 ▼           ○ Dynamic           ③ Static           192.168.1.254           ● Network Mask           255.255.255.0           ○ Prefix Length           (Range: 8 - 30)		
IPv6 Deran Router List IPv6 Neighbors IPv6 Prefix List IPv6 Routes User Accounts Idle Session Timeout Ir Time Settings	Loopback Interface: Coopback IP Address: Loopback Mask:	Enable     Network Mask     Prefix Length     (Range: 8 - 32)		
System Log     File Management     Reboot     Diagnostics     Discovery - Bonjour     Discovery - LLDP     Discovery - CDP     Pinn     @ 2010-2014 Cisco Systems, Inc. A	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 V	
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:	Infinite	
	Days Hours	00 v Minutes 00 v (Default: 1 Day)
Domain Name Serve Domain Name (Opti NetBIOS WINS Serv NetBIOS Node Type	er IP Address (Option 6): on 15): ver IP Address (Option 44): (Option 46):	Disable     User Defined     (0/32 characters used)     (0/32 characters used)     Mixed     Hybrid     Mixed     Peer-to-Peer     Foodcast
SNTP Server IP Add	fress (Option 4):	None T
File Server IP Addre	ss (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 SG300-28PI	P 28-Port Gigabit PoE+ Managed Switch	Save cisco Language: English	▼ Logout About Help
Error Recovery Settings	Network Pools		
LINK Aggregation     UDLD	Network Pool Table		
▶ PoE	Pool Name Network Mask Address Pool Start Address Pool End Lease Duration	Number of Leased Addresses	
<ul> <li>Green Ethernet</li> </ul>	VEO Addresses 255.255.255.0 192.168.1.10 192.168.1.100 Infinite	0	
<ul> <li>Smartport</li> <li>VLAN Management</li> </ul>	Add Edit Delete Details		
Default VLAN Settings VLAN Settings Interface Settings Port to VLAN Port VLAN Membership Private VLAN Settings GVRP Settings VLAN Groups VLAN Groups VLAN Groups VLAN Groups Voice VLAN Access Port Multicast TV Spanning Tree MalC Address Tables Multicast P Configuration IPV4 Management and Inte ASP	DHCP Server Options		
© 2010-2014 Cisco Systems, Inc. All	Rights Reserved.		

 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 Help Gigabit PoE Managed Switch
Small Business SG300-10P 10-Port Getting Started SG300-10P 10-Port Getting Started Status and Statistics Administration Port Management Smartpot VLAN Management Spanning Tree MAC Address Tables Multicast Properties Network Pools Excluded Addresses Static Hosts Address Binding Domain Name System Security Access Control Outling of Service SIMP	Cigabit PoE Managed Switch Properties DHCP Server Status:  Cancel Cancel
© 2010-2013 Cisco Systems, Inc. All Rights Reset	nved



 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 cisco SG300-10P 10-Port	Save cisco Language: English 💽 Logout About Help
Getting Started    Status and Statistics   Administration  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 C Plaintext Available sensitive data options are determined by the current user's SSD rules Save Icon Blinking: Enabled
Diagnostics     Discovery - Bonjour     Discovery - LLDP     Discovery - CDP     Ping	Apply Cancel Disable Save Icon Blinking
Port Management	
► Smartport	
<ul> <li>VLAN Management</li> </ul>	
<ul> <li>Spanning Tree</li> </ul>	
MAC Address Tables	
Multicast	
P Configuration	
Security     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 Languaga: English
cisco SG300-10P 10-Por	t Gigabit PoE Managed Switch
CISCO     SG300-10P 10-Por       Getting Started     •       * Status and Statistics     •       * Administration     System Settings       System Settings     •       Management Interface     User Accounts       Idle Session Timeout     •       * Time Settings     •       • System Log     •       • File Management     Upgrade/Backup Firmware/Language       • Addite Image     •	Reboot         Success.         To reboot the device, click the 'Reboot' button,         Reboot: © Immediate         © Date Jan ¥ 01 ¥ Time 00 ¥ 00 ¥ HH.MM         © In 00 ¥ 00 ¥ Hours 00 ¥ Minutes         □ Restore to Factory Defaults         □ Clear Statup Configuration File
Download/Backup Configuration/Log Configuration Files Properties Copy/Save Configuration DHCP Auto Configuration Rebool > Diagnostics Discovery - Bonjour > Discovery - LDP > Discovery - CDP Pino	Reboot Cancel Reboot Cancel
Traceroute	
<ul> <li>Port Management</li> </ul>	
<ul> <li>Smartport</li> </ul>	
<ul> <li>VLAN Management</li> </ul>	
<ul> <li>Spanning Tree</li> </ul>	
<ul> <li>MAC Address Tables</li> </ul>	
<ul> <li>Multicast</li> </ul>	
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     VLAN     Jumbo Frame     Port Mirroring     Loopback Detection     MAC Address Table     Spanning Tree     Link Aggregation     Wulticast	IGMP Snooping Global Settings IGMP Snooping Host Timeout (130-153025) Robustness Variable (2-255) Query Interval (60-500)	Enabled     Disabled     Report to all ports       260     sec     Router Timeout (60-600)       2     Last Member Query Interval (1-25)       125     sec     Max Response Time (10-25)	125 sec 1 sec 10 sec
IGMP Snooping MLD Snooping Multicast Forwarding	When Querier state is enabled, the Host Ti (Host Timeout = Robustness Variable * Qu	meout is calculated as the formula : ery Interval + Max Response Time )	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	- 14	• Wizard	🕘 Help	- 1	Surveillance Mode			
DGS-1210-24	>		Sav	e Configu	iration				
ULAN	s Frame roring		Plea	se press the b	utton to sa	ave 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

	Y Wizaru V Heip →				
System	Device Information	1			😑 Safeguaro
L2 Functions	Device Information				
Jumbo Frame	Device Type	DGS-1210-24P Gigabit Ethernet Switch	System Name		
— Port Mirroring	Boot Version	1.00.001	System Location		
Loopback Detection	Firmware Version	7.00.B006	System Time	01/01/2017 00:01:26	
MAC Address Table Spanning Tree	Hardware Version	G1	System Up Time	0 days , 0 hours , 2 mins , 16 seconds	
Link Aggregation	Serial Number	S3E21HB000020	Login Timeout (minutes)	5	
B Multicast SNTP	MAC Address	78-32-1B-FF-30-9A			
L3 Functions	IP Address Information				
QoS	IPv4 Address	10.90.90.90			
Security	Subnet Mask	255.0.0.0			
ACI	Default Gateway	0.0.0.0			
PoE	IPv6 Global Unicast Addre	SS			
SNMP	IPv6 Link-Local Address				
Monitoring					
	Device Status and Quick	Configurations			
	RSTP	Disabled Settings	NMP Status	sahled Settings	
	Port Mirroring	Disabled Settings	302.1X Status Di	sabled Settings	
	Storm Control	Disabled Settings	Safequard Engine Fr	habled Settings	
	DHCP Client	Disabled Settings	GMP Snooping Di	sabled Settings	
	Jumbo Eramo	Disabled Settings	ower Saving Er	abled Settings	

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

DGS-1210-24P	Jumbo Frame Settings	😑 Safeguard
er → VLAN □ → ↓ L2 Functions → ↓ Jumbo 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 UDE 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

■ DGS-1210-24P □	Power Saving Settings		e 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	IEEE802.3a	z EEE settings		😑 Safeguard
Bystem Settings     Port Settings     Port Settings     Port Description     Port Description     DHCP Relay     DHCP Relay     DHCP Relay	0-24P n stem Settings ussword uf Settings uf Settings tCP Auto Configuration HCP Relay HCP Kelay Settings HCP Kelay	State Disabled	Apply	
DHCPv6 Relay Settings	Port	State		
System Log Configuration	1	Disabled		
Time Profile	2	Disabled		
Power Saving	3	Disabled		
IEEE802 3az EEE sattings	4	Disabled		
TELEOVZ.Jaz EEE settings	5	Disabled		

**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.

System	VID Setting	js													😑 Sa	feguar
VLAN 802.1Q VLAN	VID	1														
802.1Q VLAN PVID	VLAN Name	default									Bac	k	Apply			
Auto Surveillance VLAN	Port	Select All	01	02	03	04	05	06	07	08	09	10	11	12	13	14
2 Functions	Untagged	All	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲	۲
3 Functions	Tagged	All														
DoS	Not Member	All														
ecurity	Port	Select All	15	16	17	18	19	20	21	22	23	24	25	26	27	28
AA	Untagged	All	0	۲	۲	0	0	0	0	0	0	0	0	0	0	0
	Tagged	All	•													
	Not Member	All														



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

DGS-1210-24P	802.1Q	Asymmetric VLAN Setti	ngs		🥚 Safeguard
DGS-1210-24P         System         System	ed ODisabled		Apply		
Auto Surveillance VLAN	Total stati	c VLAN entries: 1			Add
OGS-1210-24P       802.10 Asymmetric VLAN Settings       Safeg         VLAN       Asymmetric VLAN Settings       Apply         Vice VLAN       Example 1 © Enabled Disabled       Apply         Vice VLAN       Maximum 256 entries: 1       Add         Vice VLAN       Maximum 256 entries: 1       Add         Vice VLAN       Maximum 256 entries: 1       Add         Vice VLAN       VLAN Name       Unlagged       Delete         AAA       Of AAA       Of -14, 16-17       Delete         SMMP       SMMP       SMMP       SMMP       SMMP					
E3 Functions	VID	VLAN Name	Untagged	Tagged	Delete
🗄 🃁 💭 QoS	1	default	01-14,16-17		Delete
🖻 🃁 Security					
œ-∭ AAA					
H POE					
±-p Monitoring					

**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	gs													<u> </u>	afeguar
✓ VLAN 	VID VLAN Name Maximum 20	2 Vide ) characters.	0											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
Security	Tagged	All														
AAA	Not member	All		۲		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
SNMP	Tagged	All	ŏ													
Monitoring	Not member	Δ11	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ	ŏ

**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.





# decler

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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