

Revision 5.20.2024

Key digibal

#### Verified Network Switch Guide

For use with Key Digital AV over IP Systems

**IMPORTANT:** Configure your network switch according to this guide **BEFORE** connecting your AV over IP units.

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#### Introduction

Thank you for purchasing a Key Digital AV over IP system.

Follow the instructions in this guide to enable the features for a reliable foundation for your AVoIP system.

Your AV over IP system MUST be integrated with one these verified network switches to function.

Network Switch setup may be different for 4K (KD-IP922, KD-IP822, KD-IP1022) and 1080p (KD-IP1080, KD-IP120) systems. There are separate setup instructions for each where applicable.

#### Key Digital AV over IP Supported Models:

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- 4K Systems:
  - o KD-IP922ENC, KD-IP922DEC
  - KD-IP822ENC, KD-IP822DEC
  - KD-IP1022ENC, KD-IP1022DEC
- 1080p Systems:
  - o KD-IP1080Tx, KD-IP1080Rx
  - KD-IP120Tx, KD-IP120Rx, KD-IP120POETx, KD-IP120POERx

Key Digital's AV over IP product family consists of many different models. <u>Not all models are compatible together</u>. See Key Digital <u>AV over IP Selection Guide</u> for more info

	Digital <sup>®</sup> A							
Key Digi	ital's AV over	r IP Solutio	ns create ex	pandable AV	/ over IP	Key digibal'	PRO	KEY DIGITA
systems	s that can be	scaled to fit	any size insta	allation or pro	ject.	MANAGEMENT SOFT	WARE	APP READ
	KD-IP1022ENC	KD-IP1022DEC	KD-IP922ENC	KD-IP922DEC	KD-IP822ENC	KD-IP822DEC	KD-IP1080Tx	KD-IP1080R
							a	2 - U*
Encoder Tx / Decoder Rx	Encoder (ENC)	Decoder (DEC)	Encoder (ENC)	Decoder (DEC)	Encoder (ENC)	Decoder (DEC)	Encoder (Tx)	Decoder (Rx)
System Build* /Compatibility	KD-IP1022EN Independent Audio, V			Mix & Match KD-IP922ENC/I	DEC with KD-IP822ENC/DEC	KD-IP1080Tx/Rx Or		)Tx/Rx Only
Video Resolution	4K (10G)	4K (10G)	4K (10G)	4K (10G)	4K (10G)	4K (10G)	1080p	1080p
Audio	External L/R In, Audio De-Embed, Pre-Amp	Independent Switch, Audio De-Embed, Pre-Amp	External L/R In, Audio De-Embed, Pre-Amp	Audio De-Embed, Pre-Amp	HDMI Pass-Thru	HDMI Audio	HDMI Audio	HDMI Audio
Video Wall	Up to 16x16	Up to 16x16	Up to 16x16	Up to 16x16	Up to 16x16	Up to 16x16		
Control	TCP/IP, LAN, RS-232, 3 port Compass MC, IR RS Pass-Thru, Open API	TCP/IP, LAN, RS-232, 3 port Compass MC, IR RS Pass-Thru, Open API	TCP/IP, LAN, RS-232, 3 port Compass MC, IR RS Pass-Thru, Open API	TCP/IP, LAN, RS-232, 3 port Compass MC, IR RS Pass-Thru, Open API	TCP/IP, RS-232, 2 port Compass MC, IR RS Pass-Thru, Open API	TCP/IP, RS-232, 2 port Compass MC, IR RS Pass-Thru, Open API	Via KD-CX800 Control Interface	Via KD-CX800 Control Interfac
USB / KVM	1x USB-B (Host) for KVM, Data	Independent Switch, 2x USB-A (Device), KVM, Data	1x USB-B (Host) for KVM, Data	2x USB-A (Device) for KVM, Data	2			÷
PoE	≤ 9W - Redundant Power Connection	≤ 9W - Redundant Power Connection	≤ 9W - Redundant Power Connection	≤ 9W - Redundant Power Connection	≤ 9W - Redundant Power Connection. PS Sold Separately.	≤ 9W - Redundant Power Connection. PS Sold Separately.	≤ 6W - Redundant Power Connection	≤ 6W - Redundant Pow Connection
Compression	Motion Jpeg 2000 4K = 850Mbps 1080p = 250Mbps 720p = 125Mbps	Motion Jpeg 2000 4K = 850Mbps 1080p = 250Mbps 720p = 125Mbps	Motion Jpeg 2000 4K = 850Mbps 1080p = 250Mbps 720p = 125Mbps	Motion Jpeg 2000 4K = 850Mbps 1080p = 250Mbps 720p = 125Mbps	Motion Jpeg 2000 4K = 850Mbps 1080p = 250Mbps 720p = 125Mbps	Motion Jpeg 2000 4K = 850Mbps 1080p = 250Mbps 720p = 125Mbps	H.264 1080p ~ 15Mbps 720p ~ 12Mbps	H.264 1080p = 15Mb 720p = 12Mbp
Latency	≈ 40ms @4K	≈ 40ms @4K	≈ 40ms @4K	⇔ 40ms @4K	≈ 40ms @4K	≈ 40ms @4K	≈ 400ms @1080p	≈ 400ms @1080p

#### System Facts

4K Systems: KD-IP822, KD-IP922, KD-IP1022 models

- Video Compression Standard: Motion JPEG 2000
- Data Stream Bandwidth: < 900 Mbps

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Stream Resolution	Bandwidth
4K @ 60Hz/30Hz	≤ 850 Mbps
1080p @ 60Hz	≤ 250 Mbps
1080i / 720p @ 60Hz	≤ 125 Mbps

- Latency: ≈ 40ms @4K. Less at lower resolutions.
- PoE Power Consumption: ≤ 9 Watts per unit
- Required network cabling: CAT6 UTP/STP, CAT6A, CAT7

#### 1080p Systems: KD-IP1080, KD-IP120 models

- Video Compression Standard: H.264
- Data Stream Bandwidth: < 15 Mbps

Stream Resolution	Bandwidth
1080p @ 60Hz	≤ 15 Mbps
1080i / 720p @ 60Hz	≤ 12 Mbps
480p @ 60Hz	≤ 4 Mbps

- Latency: ≈ 400ms @1080p. Less at lower resolutions.
- PoE Power Consumption: ≤ 6 Watts per unit
- Required network cabling: CAT5e UTP/STP, CAT6 UTP/STP, CAT6A, CAT7

#### Network switch Requirements for KD AV over IP

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Key Digital's AV over IP systems utilize multicasting technology to broadcast streams throughout the network.

AV over IP **requires a network switch with IGMP (Internet Group Management Protocol) support** to direct traffic of the broadcast streams, ensuring that only the desired decoders receive the stream from the selected encoder.

If the system **spans multiple network switches**, it is <u>required</u> for the switches to be connected via **10G fiber cabling** for the purpose of stacking. You must use two of the same series of network switch in these scenarios for best compatibility.

For 1080p systems (KD-IP1080, KDIP120 models) that plan to use the video preview feature of the <u>Key Digital App</u>, IGMP v3 must be enabled. For 1080p or 4K systems that will not use the video preview feature, IGMP v2 is enabled.

KD-IP822, 922, 1022 systems require the following IP addresses to be **reserved**. They cannot be assigned to KD-IP822, 922, or 1022 units:

192.168.1.1, 192.168.1.50, 192.168.1.90, 192.168.1.100, 192.168.1.150, 192.168.1.200

Feature	4K System	1080p System
	(KD-IP822, KD-IP922, KD-IP1022 models)	(KD-IP1080, KD-IP120 models)
IGMP v2	X	X (for non-video preview systems)
IGMP v3		X (for video preview systems)
Bandwidth	1Gbps	100BaseT
8K Jumbo Frame	X	
PoE	Optional	Optional (excl KD-IP120PoE models)

#### **Verified Network Switches**

Brand	Model	Port Number	ΡοΕ	10G Fiber Stacking	Approved for KD-IP1080/120	Approved for KD-IP822/922	Approved for KD-IP1022
Araknis	AN-210-SW-R- 8-POE	8	YES	NO	YES	YES	
	AN-210-SW-F- 8-POE	8	YES	NO	YES	YES	
	AN-210-SW-R- 16-POE	16	YES	NO	YES	YES	
	AN-210-SW-F- 16-POE	16	YES	NO	YES	YES	
	AN-210-SW-R- 24-POE	24	YES	NO	YES	YES	
	AN-210-SW-F- 24-POE	24	YES	NO	YES	YES	
	AN-210-SW-F- 48-POE	48	YES	NO	YES	YES	
	AN-310-SW-R-8	8	NO	NO	YES	YES	
	AN-310-SW-F-8	8	NO	NO	YES	YES	
	AN-310-SW-R- 16	16	NO	NO	YES	YES	
	AN-310-SW-F- 16	16	NO	NO	YES	YES	
	AN-310-SW-R- 24	24	NO	NO	YES	YES	
	AN-310-SW-F- 24	24	NO	NO	YES	YES	
	AN-310-SW-R- 8-POE	8	YES	NO	YES	YES	
	AN-310-SW-F- 8-POE	8	YES	NO	YES	YES	
	AN-310-SW-R- 16-POE	16	YES	NO	YES	YES	
	AN-310-SW-F- 16-POE	16	YES	NO	YES	YES	
	AN-310-SW-R- 24-POE	24	YES	NO	YES	YES	
	AN-310-SW-F- 24-POE	24	YES	NO	YES	YES	
	AN-310-SW-F- 48-POE	48	YES	NO	YES	YES	

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Brand	Model	Port Number	ΡοΕ	10G Fiber Stacking	Approved for KD-IP1080/120	Approved for KD- IP822/922	Approved for KD-IP1022
Cisco	SF500-48	48	NO	NO	YES	NO	NO
	SG300-28		NO	NO	YES	YES	
	Catalyst 3850 Series		YES	NO	YES	YES	
	Meraki MS225	24	YES		YES	YES	
D-Link	DGS-3630- 52PC	52	YES	YES	YES	YES	YES
	DGS-3630-52TC	52		YES	YES	YES	YES
	DGS-3630- 28PC	28	YES	YES	YES	YES	YES
	DGS-3630-28SC	28	NO	YES	YES	YES	YES
	DGS-3630-28TC	28	NO	YES	YES	YES	YES
	DGS-3130-54PS	54	YES	NO	YES	YES	
Edgecore Mellanox	Edgecore AS4610-54T	48	YES	YES		YES	YES
Engenius	EGS5212P	8	YES	NO	YES	NO	NO
-	EGS7228FP	24	YES	NO	YES	NO	NO
	EGS7252FP	24	YES	NO	YES	NO	NO
	EWS1200D-10T	10	NO	NO	YES	NO	NO
	EWS1200D-28T	24	NO	NO	YES	NO	NO
	EWS1200D-52T	48	NO	NO	YES	NO	NO
	EWS5912FP	8	YES	NO	YES	NO	NO
	EWS7928P	24	YES	NO	YES	NO	NO
	EWS7928FP	24	YES	NO	YES	NO	NO
	EWS7952FP	48	YES	NO	YES	NO	NO

Brand	Model	Port Number	ΡοΕ	10G Fiber Stacking	Approved for KD-IP1080/120	Approved for KD-IP822/922	Approved for KD-IP1022
Linksys	LGS552P	52	YES	YES	YES	YES	
	LGS528P	28	YES	YES	YES	YES	
	LGS326P	26	YES	NO	YES	YES	
	LGS318P	18	YES	NO	YES	YES	
	LGS326MP	26	YES	NO	YES	YES	
	LGS326P	26	YES	NO	YES	YES	
	LGS326	26	NO	NO	YES	YES	
	LGS318P	18	YES	NO	YES	YES	
	LGS318	18	NO	NO	YES	YES	
	LGS308MP	8	YES	NO	YES	YES	
	LGS308P	8	YES	NO	YES	YES	
	LGS308	8	NO	NO	YES	YES	
Luxul	AMS-4424P	24	YES	YES	YES	YES	
	SW-610-24P-R	24	YES	YES	YES	YES	
	SW-510-48P-F	48	YES	NO	YES	YES	
Netgear	GS716T	16	NO	NO	YES	YES	
	GS724T	24	NO	NO	YES	YES	
	GS748T	48	NO	NO	YES	YES	
	GS752TP	48	YES	NO	YES	YES	YES
	GS728TP	28	YES	NO	YES	YES	
	M4250- 10G2XF-PoE	10	YES (8)	YES	YES	YES	YES
	M4250- 26G4XF-PoE+	24	YES	YES	YES	YES	
	M4250- 40G8XF-PoE+	40	YES	YES	YES	YES	

		R

Brand	Model	Port Number	ΡοΕ	10G Fiber Stacking	Approved for KD-IP1080/120	Approved for KD-IP822/922	Approved for KD-IP1022
Niveo	NGSME24TH- AV	24	YES	NO	YES	YES	
Pakedge	S3L-24P	24	YES		YES	NO	NO
	SX-8EP	8			YES	YES	
	SX-8P	8	YES		YES	YES	
	SX-24	24			YES	YES	
	SX-24P16	24	YES (16)		YES	YES	
	SX-24P	24	YES (24)		YES	YES	
Signamax	SC30020	24	YES	NO	YES	YES	
Titan Networx	TNSS2400P	24	YES		YES	NO	NO
TP-Link	TL-SG2428P	24	YES	NO		YES	YES
	TL-SG3210XHP- M2	8	YES	YES		YES	
	TL-SG3428XMP	24	YES	YES		YES	
	TL-SG3452XP	48	YES	YES	YES	YES	

#### IGMP Setup Guide: Araknis 1080p Systems (KD-IP1080, KD-IP120)

- 1. **IMPORTANT**: Disconnect all the DHCP devices like routers, servers from the Araknis network switch.
- 2. Locate a pinhole "RESET" button at the front panel left bottom corner of your Araknis network switch. Using a paper clip press and hold a reset button for more than 10 seconds and then release. Wait while the device is restarted and ready to use (about 5min).
- 3. **IMPORTANT**: At this point all the displays should be displaying distorted randomly flashing video images.
- 4. Connect your PC to the Araknis network switch directly using a network cable.

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- If you have not done yet, configure your PC's IP address to the same range as the switch (default 192.168.20.xxx).
- 6. Enter the switch's IP address (default is **192.168.20.254**) in your browser and press ENTER.
- 7. Enter username and password (default is "araknis" for both). Then click Log In.

Cogin X	
← → C 🗋 192.168.20.254/login.html	☆ 〓
For quick access, place your bookmarks here on the bookmarks bar. Import bookmarks now	
<b>Caraknis</b>	*
AUTHENTICATION REQUIRED	
Username: araknis Password: ••••••	
AN-210-SW-24-POE	•

 Navigate to Settings -> System. Under IP Address Settings elect Static. Change an IP address to 192.168.1.251, Subnet Mask to 255.255.255.0, Default Gateway to 192.168.1.1 (in this case), and at the bottom click Apply. If you are setting up multiple network switches it is recommended to set first one to 192.168.1.251, second to 192.168.1.252, and so on, and each switch must be set individually same way as described below.

A raknis 210 24 Port PoE ×									
← → C 192.168.1.251/#2									
Image: Apps         G Google         Image: Society of the society of									
O ADVANCED	IPv4		IPv6						
Q Search	Auto Configuration	● Static 🛛 DHCP	IPv6 State	Auto Configuration					
	IPv4 Address	192.168.1.251	IPv6 Address	fe80::d66a:91fffe3b:75fb           /         64         (1-127)					
Subnet Mask     255.255.255.0     Default Gateway									
	Default Gateway         192.168.1.1         Link Local Address         fe80:: d66a:91ff:fe3b:75fb								
	DNS Server 1	0.0.0.0							
	DNS Server 2	0.0.0.0							
	Date and Time Settings								
	Manually Set Date and								
		03 24-Hour)							
	Synchronize with PC	24-110417							
	Automatically Get Date	e and Time							
	NTP Server: time.nist.go								
	Time Zone: (GMT-05:00)	Eastern Time (US and Canada)	•						
	🔲 Enable Daylight Savin	g							
	End: November 🔻 1s	t 🔻 Sun 🔻 02 🔻 00 🔻							
	UPnP Configuration								
	UPnP	Enabled •							
				Apply Cancel					

- 9. Page will refresh. Configure your PC's IP address to the same range as the switch (default **192.168.1.xxx**). Enter the switch's IP address (default is **192.168.1.251**) in your browser and press ENTER.
- 10. Make sure the settings remain as above.

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11. Navigate to Advanced -> Multicast -> IGMP Snooping. Under Settings select Enable for Status, V3 for Version, and Enable for Report Suppression. Under VLAN Settings / VLAN ID 1 select Enable for IGMP

Snooping Status and Enable for Fast Leave. Under Querier Settings / VLAN ID 1 select Enable for Querier State, V3 for Querier Version and make sure all other setting are exactly as shown below. Click Apply.

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IGMP SN	IGMP SNOOPING												
Settings													
Status								Enabled Disat	bled				
Version								OV2 <b>●</b> V3					
Report S	Suppression							Enabled Obisat	pled				
Unregist	tered Multicast Beha	vior						OFlood ODrop					
2													
VLAN Se	ettings												
VLAN ID	)		IGN	IP Snooping Status				Fast Leave					
1			E	nabled				V Enabled V				~	
Querier S	Querier Settings												
VLAN ID	Querier State	Querier Version	Querier Status	Querier IP	Robustness	Interval	Oper Interval	Max Response Interval	Oper Max Response Interval	Last Member Query Counter	Oper Last Member Query Counter	Last Member Query Interval	Oper Last Member Query Interval
1	Enabled ~	v3 ~	Querier	192.168.1.251	2	125	125	10	10	2	2	[1]	1

- 12. **IMPORTANT**: At this point all the displays should be displaying stable running video from the selected sources. If you do not have them displaying properly, than network switch is configured incorrectly.
- 13. Navigate to **Maintenance** -> **Restart Device** and click Restart Switch. After the reboot is complete, check all settings again.

🔞 Araknis 210 24 Port PoE 🛛 🗙 📃				
← → C 🗋 192.168.1.250/ir	ndex.html?160219-1935#11			ය =
For quick access, place your bookmarks here or	n the bookmarks bar. Import bookmarks now			
<b>araknis</b>	RESTART DEVICE	CLOUD SERVER: No Connection	<b>System Time:</b> 2000-12-31 19:08:46	• System Uptime: 0d 00:09:10
STATU S SYSTEM PORTS	Reboot the device			
SETTINGS     SYSTEM     PORTS     POE     VLANS	Caution: Pressing this button will cause the device to react Restart Switch	boot.		

- 14. IMPORTANT: Now you can connect back you DHCP equipment (routers, servers and so on).
- 15. Power down Araknis network switch and power it up back again. Wait for the whole system to start and until you can see video on your displays.
- 16. Log in to your Araknis network switch again and make sure that IGMP settings are intact.
- 17. Rescan your components with Key Digital Management Software and make sure HDMI video switch is functional.
- 18. At this point your Araknis network switch is set and ready to use
- 19. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

#### IGMP Setup Guide: Araknis 4K Systems (KD-IP822/922/1022)

- 1. **IMPORTANT**: Disconnect all the DHCP devices like routers, servers from the Araknis network switch.
- 2. Locate a pinhole "RESET" button at the front panel left bottom corner of your Araknis network switch. Using a paper clip press and hold a reset button for more than 10 seconds and then release. Wait while the device is restarted and ready to use (about 5min).
- 3. **IMPORTANT**: At this point all the displays should be displaying distorted randomly flashing video images.
- 4. Connect your PC to the Araknis network switch directly using a network cable.

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- If you have not done yet, configure your PC's IP address to the same range as the switch (default 192.168.20.xxx).
- 6. Enter the switch's IP address (default is **192.168.20.254**) in your browser and press ENTER.
- 7. Enter user name and password (default is "araknis" for both). Then click Log In.

Co Login X							
← → C 🗋 192.168.20.254/login.html	☆ <b>=</b>						
For quick access, place your bookmarks here on the bookmarks bar. Import bookmarks now							
<b>araknis</b>							
AUTHENTICATION REQUIRED	- 1						
Username: araknis Password: ••••••							
AN-210-SW-24-POE							

 Navigate to Settings -> System. Under IP Address Settings elect Static. Change an IP address to 192.168.1.251, Subnet Mask to 255.255.255.0, Default Gateway to 192.168.1.1 (in this case), and at the bottom click Apply. If you are setting up multiple network switches it is recommended to set first one to 192.168.1.251, second to 192.168.1.252, and so on, and each switch must be set individually same way as described below.

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IK I:			

Auto Configuration <ul> <li>Static</li> <li>DHCP</li> <li>IPv6 State</li> <li>Auto Configuration</li> <li>IPv6 Address</li> </ul> IPv4 Address 192.168.1.251   IPv6 Address / 64   (1-127)   Subnet Mask 255.255.0   Default Gateway   192.168.1.1   Link Local   Address   fe80:: d66a:91ff:fe3b:75fb   DNS Server 1   0.0.0   DNS Server 2   0.0.0      Date: 2001 / 1 / 03 Time: 18 : 25 / (24-Hour) Synchronizz with PC • Automatically Get Date and Time NTP Server: Imme nist gov v  Time Zone: (GMT-05:00) Eastern Time (US and Canada) • Time Zone: (GMT-05:00) Eastern Time (US and Canada) • Enable Daylight Saving Statt: March 2 and 7 Sun * (2 *): (0 *) End : (xoember * (x) * (0 *) End : (xoember * (x) * (0 *)	IPv4	IPv6						
IPv4 Address       192.168.1.251       IPv6 Address       / E4 (1-127)         Subnet Mask       255.255.0       Default Gateway       ::::::::::::::::::::::::::::::::::::	Auto Configuration	💿 Static 🛛 DHCP	IPv6 State	Auto Configuration				
Subnet Mask       255 255 255 0       Default Gateway       ::         Default Gateway       192.168.1.1       Link Local Address       fe80:: d66a.91ff.fe3b:75fb         DNS Server 1       0.0.0       0.0.0       0       0         DNS Server 2       0.0.0       0       0       0         Date and Time Settings       0.0.0       0       0       0       0         Date and Time Settings       0.0.0       0       0       0       0       0       0         Date 2001 / 1 / 03       1       03       1       0				fe80::d66a:91ff:fe3b:75fb				
Default Gateway 192.168.1.1   Link Local Address fe80:::d66a:91ff:fe3b:75fb   DNS Server 1 0.0.0   DNS Server 2 0.0.0   Date and Time Settings   • Manually Set Date and Time Date: 2001 / 1 / 03 Time: 18 : 25 (24-Hour) Synchronize with PC • Automatically Get Date and Time NTP Server: time nist gov v Time Zone: (GMT-05:00) Eastern Time (US and Canada) v Enable Daylight Saving Start: March v 2nd v Sun v 02 v: 00 v	IPv4 Address	192.168.1.251	IPv6 Address	/ 64 (1-127)				
Default Gateway       192.185.1.1       Address       1900: doba: 91111936,7510         DNS Server 1       0.0.0       0.0.0       0         DNS Server 2       0.0.0       0       0         Date and Time Settings         • Manually Set Date and Time         Date:       2001 / (1 / 03)         Time:       18 : 25 (24.Hour)         Synchronize with PC         • Automatically Get Date and Time         NTP Server:       Ime.nist.gov         Time Zone:       (GMT-05:00) Eastern Time (US and Canada)         • Enable Daylight Saving         Start:       March	Subnet Mask	255.255.255.0	Default Gateway					
DNS Server 1 0.0.0   DNS Server 2 0.0.0   Date and Time Settings   • Manually Set Date and Time Date: 2001 / 1 / 03 Time: 18 : 25 24-Hour) Synchronize with PC • Automatically Get Date and Time NTP Server: time.nist.gov v Time Zone: (GMT-05:00) Eastern Time (US and Canada) v Enable Daylight Saving Start: March v 2nd v Sun v 02 v: 00 v	Default Gateway	192.168.1.1		fe80::d66a:91ff:fe3b:75fb				
Date and Time Settings   • Manually Set Date and Time   Date: 2001 / 1 / 03   Time: 18 : 25 (24-Hour)   Synchronize with PC   • Automatically Get Date and Time   NTP Server: time nist gov   Time Zone: (GMT-05:00) Eastern Time (US and Canada)   • Enable Daylight Saving   Start: March v 2nd v Sun v 02 v: 00 v	DNS Server 1	0.0.0						
<ul> <li>Manually Set Date and Time </li> <li>Date: 2001 / 1 / 03 </li> <li>Time: 18 : 25 (24-Hour) </li> <li>Synchronize with PC </li> <li>Automatically Get Date and Time NTP Server: time nist gov  </li> <li>Time Zone: (GMT-05:00) Eastern Time (US and Canada) </li> <li>Enable Daylight Saving Start: March * 2nd * Sun * 02 * 00 *</li></ul>	DNS Server 2	0.0.0.0						
Automatically Get Date and Time NTP Server: time.nist.gov v Time Zone: (GMT-05:00) Eastern Time (US and Canada) v Enable Daylight Saving Start: March v 2nd v Sun v 02 v: 00 v	Date: 2001 / 1	)/03						
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NTP Server: time.nist.gov  Time Zone: (GMT-05:00) Eastern Time (US and Canada) Enable Daylight Saving Start: March  2nd  Sun  02  CO	Date: 2001 / 1 Time: 18 : 25	)/03						
Time Zone:       (GMT-05:00) Eastern Time (US and Canada)         ■ Enable Daylight Saving         Start:       March         ▼       2nd	Date:         2001         /         1           Time:         18         :         25           Synchronize with PC	)/ [03] ](24-Hour)						
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Start: March T 2nd T Sun T 02 T: 00 T	Date: 2001 / 1 Time: 18 : 25 Synchronize with PC Automatically Get	)/ 03 )(24-Hour) Date and Time						
	Date: 2001 / 1 Time: 18 : 25 Synchronize with PC Automatically Get NTP Server: time nis	)/ [03] [24-Hour] Date and Time	da) 💌					
End: November v 1st v Sun v 02 v : 00 v	Date: 2001 / 1 Time: 18 : 25 Synchronize with PC Automatically Get NTP Server: time.nic	) / 03 (24-Hour) Date and Time t.gov v :00) Eastern Time (US and Cana	ida) T					
	Date: 2001 / 1 Time: 18 : 25 Synchronize with PC Automatically Get NTP Server: time nis Time Zone: (GMT-05 Enable Daylight Si Start: March *	) / 03 (24-Hour) Date and Time t.gov • :00) Eastern Time (US and Cana aving 2nd • Sun • 02 • :						
UPnP Configuration	Date: 2001 / 1 Time: 18 : 25 Synchronize with PC Automatically Get NTP Server: time niss Time Zone: (GMT-05 Enable Daylight Si Start: March *	) / 03 (24-Hour) Date and Time t.gov • :00) Eastern Time (US and Cana aving 2nd • Sun • 02 • :						

- 9. Page will refresh. Configure your PC's IP address to the same range as the switch (default **192.168.1.xxx**). Enter the switch's IP address (default is **192.168.1.251**) in your browser and press ENTER.
- 10. Make sure the settings remain as above.

11. Navigate to Advanced -> Multicast -> IGMP Snooping. Under Settings select Enable for Status, V2 for Version, Enable for Report Suppression, and Flood for Unregistered Multicast Behavior. Under VLAN Settings / VLAN ID 1 select Enable for IGMP Snooping Status and Enable for Fast Leave. Under Querier Settings / VLAN ID 1 select Enable for Querier State, V2 for Querier Version and make sure all other setting are exactly as shown below. Click Apply.

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<b>araknis</b>	IGMP S	NOOPING			LOUD SERV	ICE: No Connec	tion (	System *	Time: 2000-12	2-31 19:02:28	🕓 Sy	stem Uptime	e: 0d 00:03
STATUS SYSTEM	Settings												
PORTS	Status							Enable	d ODisabl	ed			
SETTINGS SYSTEM	Version							<b>O</b> V2	⊖V3				
PORTS	Report \$	Suppression						Enable	d ODisabl	ed			
VLANS	Unregis	tered Multicast	Behavior					Flood	ODrop				
LINK AGGREGATION ACCESS MANAGEMENT													
	VLAN Se			IGMP S	nooping Status				Fast Lea	ive			
TRACE ROUTE	1			Enabl	ed			~	Enable	ed			
FILE MANAGEMENT	AGEMENT												
RESTART DEVICE	Querier	Settings											
ADVANCED PORT STATISTICS	VLAN	Querier	Querier	Questien				0	Max	Oper Max	Last Member		Last Member
RUNNING CONFIG	ID	State	Version	Querier Status	Querier IP	Robustness	Interval	Oper Interval	Response Interval	Response Interval	Query Counter	Query Counter	Query Interval
		etato											
<ul> <li>NEIGHBORS</li> <li>MULTICAST</li> </ul>	1	Enabl ~	v2 ~	Querier	192.168.200.254	2	125	125	10	10	2	2	1

12. Enter **Settings -> Ports** and set Jumbo Frame size to 9216 bytes, enabling the required 8K jumbo frame support feature.

🔞 Araknis 2	0 24 Port PoE ×	θ - □
$\leftrightarrow \Rightarrow  {\tt G}$	① 192.168.1.251/index.html?160219-1935#3	९ ☆ ढ
arak	CLOUD SERVER: No Connection     System Time: 2000-12-3	31 19:23:21 (System Uptime: 0d 00:24
STATUS	PORT SETTINGS	
SYSTEM PORTS	Jumbo Frame           Size         9210         Bytes (1522-9216)	
SETTINGS SYSTEM	0100 bytes (1522-9210)	
PORTS	Basic Port Settings Spec	ed Duplex
VLANS LINK AGG	1 Port 1	

- 13. **IMPORTANT**: At this point all the displays should be displaying stable running video from the selected sources. If you do not have them displaying properly, then network switch is configured incorrectly.
- 14. Navigate to **Maintenance** -> **Restart Device** and click Restart Switch. After switch is rebooted and back to normal log in again, check all the settings again.

☆ =

e: 0d 00:09:10

Araknis 210 24 Port PoE x				L
← → C 🗋 192.168.1.25	50/index.html?160219-1935#11			
	ere on the bookmarks bar. Import bookmarks now			
araknis	RESTART DEVICE	CLOUD SERVER: No Connection	<b>System Time:</b> 2000-12-31 19:08:46	🕒 System Uptir
STATU S SYSTEM PORTS	Reboot the device			
	Caution: Pressing this button will cause the device	to reboot.		
SYSTEM PORTS	Restart Switch			
POE				
VLANS				

- 15. IMPORTANT: Now you can connect back you DHCP equipment (routers, servers and so on).
- 16. Power down Araknis network switch and power it up back again. Wait for the whole system to start and until you can see video on your displays.
- 17. Log in to your Araknis network switch again and make sure that IGMP settings are intact.
- 18. Rescan your components with Key Digital Management Software and make sure HDMI video switch is functional.
- 19. At this point your Araknis network switch is set and ready to use.

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20. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

#### **Cisco Meraki series**

After gaining access to the Cisco Dashboard, navigate to the following and applied settings as depicted:

Multicast settings	5					
IGMP Snooping	Switches/Stacks	IGMP snooping	Flood unknown multicast traffic			
membership report messages	Default	Enabled ~	Disabled v			
to limit multicast traffic to the subset of interfaces on which interested hosts reside.	Set multicast settings for another switch or stack					
MTU configuratio	n					
MTU size The Maximum Transmission	Switches	мти	Size			

The Maximum Transmission Unit (MTU) is the maximum payload allowed in an ethernet frame.

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Default MTU Size	9578	<>
Set the MTU size	for another set of switches	

#### IGMP Setup Guide: Cisco SG and SF Series 4K Setup for SG Series 1080p Setup for SF Series

#### Note: SF Series is Compatible with KD-IP1080, KD-IP120 AV over IP Systems Only

Key digibal'

- 1. **IMPORTANT**: Disconnect all the DHCP devices like routers, servers from the Cisco network switch.
- 2. Locate a pinhole "RESET" button at the front panel left bottom corner of your Cisco network switch. Using a paper clip press and hold a reset button for more than 10 seconds and then release. Wait while the device is restarted and ready to use (about 5min).
- 3. **IMPORTANT**: Make sure the green "SYSTEM"LED next to the pinhole "RESET" button is flashing.
- 4. **IMPORTANT**: At this point all the displays should be displaying distorted randomly flashing video images.
- 5. Connect your PC to the Cisco network switch directly using a network cable.
- If you have not done yet, configure your PC's IP address to the same range as the switch (default 192.168.1.xxx).
- Enter the switch's IP address in your browser and press ENTER (check the user manual for a default IP address - it is usually 192.168.1.254).
- 8. Enter user name and password (check the user manual for a default user name and password; it is usually "cisco" for both). Then click Log In.

date 192.168.1	254/csb8af766d/c 🗙		<u>e</u>	
← → C	192.168.1.254/csb8af766c	l/config/log_off_page.htm		☆ 〓
For quick access,	place your bookmarks here on the bookmar	ks bar. Import bookmarks now		
	ululu Switch	Username:	cisco	1
		Password:		
		Language:		
		Languaye.		/UTTOON
			Log In Secure Browsing	(HTTPS)
	© 2010-2013 Cisco Systems, Inc. All R Cisco, Cisco Systems, and the Cisco S in the United States and certain other	Systems logo are registered trademarks or trade	emarks of Cisco Systems, Inc.	and/or its affiliates

9. **Change Password** screen will appear. Enter old and then new password two times as at the picture below and click Apply.

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10/100 Sta ×								
← → C 🗋 192.168.1.254/csb8af766d/home.htm 📍 🎲 🚍								
Apps G Google 誌 192.168.1.250/cs525da 🗋 TNS5-2400P 🗋 TNS5-2400P 🗱 192.168.1.254/csb8af7								
Strall Business cisco Language: English Cogout About Help CISCO SF500-48 48-Port 10/100 Stackable Managed Switch								
Change Password	Change Password							
	The minimum requirements are as follows • Cannot be the same as the user name. • Cannot be the same as the current pass • Minimum length is 8.							
	New Password Configuration							
	Old Password:							
	New Password:							
	Confirm Password:							
	Password Strength Meter: Password Strength Enforcement:	Below Minimum						
	Apply							
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10. Getting Started screen will appear.

A □ 2 3										
← → C 🗋 192.168.1.254/csb8af766d/home.htm										
₩ hbbs 🖉 goodle alle 155/100/1/50/129500: 🗍 Himmetion. 🗍 Himmetion. 986/125/100/1754/12009//										
	Small Business cisco Language: English 🗸 Logout About Help									
cisco SF500-48 48-Port 10/100 Stackable Managed Switch										
Getting Started										
<ul> <li>Status and Statistics</li> </ul>	Getting Started									
<ul> <li>Administration</li> </ul>										
Port Management	This page provides easy steps to configure your device									
<ul> <li>Smartport</li> </ul>	💊 Initial Setup									
VLAN Management     Spanning Tree										
<ul> <li>MAC Address Tables</li> </ul>	Change System Mode and Stack Management Change Device Password									
Multicast	Change Management Applications and Services Upgrade Device Software									
<ul> <li>IP Configuration</li> </ul>	Change Device IP Address	Backup Device Configuration								
Security	Create VLAN	Create MAC-Based ACL								
<ul> <li>Access Control</li> </ul>	Configure Port Settings	Create IP-Based ACL								
<ul> <li>Quality of Service</li> </ul>		Configure QoS								
► SNMP	📊 Device Status	Configure Port Mirroring								
	System Summary									
	Port Statistics									
	RMON Statistics									
	View Log									
	VIEW LUG	1								
	Other resources: Support   Forums									
	other resources. Support Fordins									
	Do not show this page on startup									
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11. Navigate to **Configration Wizards** to access the **Gettting Started Wizard**, which will be used to set the desired IP address of the switch.

Ken	

cisco SG350-28P	Admini1224 switch6401c3 Language: English V Display Mode: Basic V Logout SNA FindIT About Help 28-Port Gigabit PoE Managed Switch								
Getting Started	Configuration Wizards								
Configuration Wizards Search	Getting Started Wizard								
Status and Statistics     Administration	Launch Wizard This wizard can be used to perform the initial set-up of the switch.								
System Settings User Accounts Idle Session Timeout	VLAN Configuration Wizard								
<ul> <li>Time Settings</li> <li>System Log</li> </ul>	Launch Wizard This wizard can be used create and manage VLANs.								
<ul> <li>File Management</li> <li>Firmware Operations</li> <li>File Operations</li> </ul>	ACL Configuration Wizard								
File Directory FindIT Network Probe Setti	Launch Wizard This wizard can be used create and manage ACLs.								
Reboot Discovery - Bonjour	6								
<ul> <li>Discovery - LLDP</li> <li>Discovery - CDP</li> </ul>									
Locate Device Ping Traceroute									
<ul> <li>Port Management</li> </ul>									
Port Settings Error Recovery Settings									
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Not secure   10.100.1.	.254/csbf57f8cb/mts/wizard/g	etting_started_wizard.htm	2
1. General Information	Use this screen to create	a new IP interface for the system. The None opti	ion will keep the current configurat
2. IP Settings	Interface:	○ Port GE1 ∨ ○ LAG 1∨ ● VL	LAN 1 🗸 🔿 None
3. User Account	IP Interface Source:	<ul> <li>DHCP</li> <li>Static</li> </ul>	
4. Time Settings	IP Address:		
5. Summary	Network Mask:		
6. Finish	Administrative Default Gate	way:	
	DNS Server:		
			Back Next Cance



12. Log in again using new password and new IP address.

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diele 192.168.1.	254/csb8af766d/ ×		8 <u>-</u> 8 X
← → C	192.168.1.254/csb8af766d/config/log_off_page.htm	n	☆ =
For quick access,	place your bookmarks here on the bookmarks bar. Import bookmarks now		
	ululu Switch cisco	Username: Password: Language:	
	© 2010-2013 Cisco Systems, Inc. All Rights Reserved. Cisco, Cisco Systems, and the Cisco Systems logo are registered trade in the United States and certain other countries.	emarks or trade	temarks of Cisco Systems, Inc. and/or its affiliates

13. Navigate to Multicast -> IGMP Snooping. Check the IGMP Snooping Status: Enable box and click Apply.

🔲 🎎 SG350-28P 28-P 🗙	🔍 cisco sg350 ju	mb 🗙   1	SG350XMP ju	umbo 🗙 📔 🎰	Configure Jum	o ×   🚺	What are Jumbo	🗙 🔍 yout	tube - Search	🗙 📔 🗈 cisco j	umbo fram 🗙	+	- 0	×
$\leftrightarrow$ $\rightarrow$ C $\blacktriangle$ Not	secure   10.100	0.1.254/csł	bf57f8cb/mts/h	iome.htm							A" to 1	ć= @	<b>↓</b> ₀ (2)	
ululu cisco SG350-28P	28-Port Gi	gabit F	oE Mana	ed Swi		234 switch6	401c3 Language	English	~	Display Mode: E	Basic 🗸	Logout SNA	FindIT Abou	t Help Q
Health and Power Diagnostics RMON View Log Administration	IGMP Snoop IGMP Snooping is	only operat		e Multicast Filt	ering is enabled. E	Bridge Multica	st Filtering is curre	ently disabled.						
Port Management     Port Settings     Error Recovery Settings     Link Aggregation     PoE	IGMP Querier S Apply IGMP Snooping													
Green Ethernet     Smartport     Properties     VLAN Management	Entry No.	VLAN ID	IGMP Snooping Administrative Enabled	Status Operational Disabled	MRouter Ports Auto Learn Enabled	Immediate Leave Disabled	Last Member Query Counter 2	IGMP Querier S Administrative Enabled		IGMP Querier Election Disabled	IGMP Querier Version v2	Querier IP Address 192.168.1.254		
VLAN Settings Interface Settings Port to VLAN Port VLAN Membership ▶ Voice VLAN	Copy Sett	ings	Edit	J										
Spanning Tree     MAIC Address Tables     Multicast     IPv4 Multicast Configuration     IGMP Snooping     Multicast Router Port     Forward All														
© 2011-2019 Cisco Systems, Inc. All			0 1		<b>-</b> 02		<b>•</b>	** 💷	<b>m</b>	31°C	^ @ 📥 🗉	) (c d) ENG	7:55 PM	

14. Click on a radio button on the left and then click Edit. New window will appear. Select "1" for VLAN ID. Check Enable box under IGMP Snooping Status. Check Enable box under Immediate Leave. Check Enable box under IGMP Querier Status. Select User Defined next to Administrative Querier Source IP Address: and select 192.168.1.1. For IGMP Querier Version: select IGMPV3 for IP1080 system. If using IP922 system, select IGMPV2. Then click Apply and Close. Make sure all the setting are exactly as shown

🕒 Edit IGMP Snooping Settings -	🖞 Edit IGMP Snooping Settings - Work - Microsoft Edge 🧕 🚽 🗸 🗸							
▲ Not secure   10.100.1.254/csbf57f8cb/mts/multicast/igmp_snooping_e_jq.htm A <sup>®</sup>								
VLAN ID: IGMP Snooping Status: MRouter Ports Auto Learn: Immediate Leave: & Last Member Query Counter:	1 ▼         ☑ Enable         ☑ Enable         ☑ Isable         ④ Use Query Robustness (2)         ○ User Defined         ○ (Range: 1 - 7)							
IGMP Querier Status: IGMP Querier Election:	Cose Defined     (Nange: 1-1)							
IGMP Querier Version: Querier Source IP Address:	<ul> <li>♥ v2</li> <li>∨3</li> <li>Auto</li> <li>♥ User Defined 192.168.1.254 ▼</li> </ul>							
Apply Close								

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← → C 🗅 192.168.1.251/csb8af766d/home.htm									
III Apps G Google ## 192.168.1.250/cs5254 D ThS5-2400P ## 192.168.1.254/cs584 D ThS5-2400P ## 192.168.1.254/cs58457									
iliuli, Small Business cisco SF500-48 48-Port 10/100 Stackable Managed Switch									
Getting Statues and Statistics         Nations and Statistics         Administration         Port Management         Spaning Tree         Multicast         Multicast         Propertiles         MAC Address Tables         Propertiles         MAC Foroup Address         IPM Multicast Group Address         IPM Address         IPM Multicast Group Address         IPM Multicast Group Address         IPM Multicast Group Address </td <td></td>									
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15. If using KD-IP922 system, enable jumbo frames in the Port Management section.

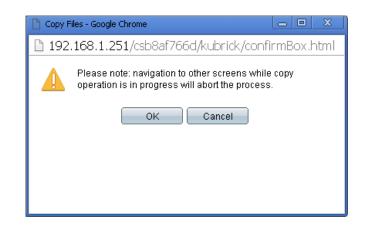
cisco SG350-28P	Admin1234 switch6401c3 Language: 28-Port Gigabit PoE Managed Switch									
Getting Started Dashboard	Port Settings									
Configuration Wizards	Jumbo Frames: 🔽 Enable									
Search	Jumbo frames configuration changes will take effect after saving the configuration and rebooting the switch.									
<ul> <li>Status and Statistics</li> </ul>	Sumbo frames configuration changes will take effect after saving the configuration and rebooting the switch.									
<ul> <li>Administration</li> </ul>	Apply Cancel									
<ul> <li>Port Management</li> </ul>										
Port Settings	Port Settings Table									
Error Recovery Settings  Link Aggregation	Entry No. Port Port Type Operational Status Port Duplex LAG Protection Speed Mode State									

16. On the top of the page click on flashing "x Save". For Source File Name: select Running configuration. For Destination File Name: select Startup configuration. Check the selections and make sure they are exactly as shown below. Click Apply.

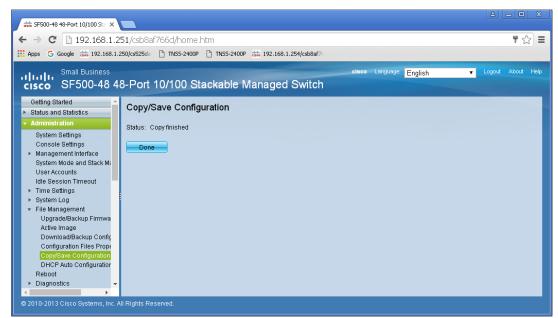
cisco SG350-28P	28-Port Gigabit	Save PoE Managed Switch	Admin1234 switch	6401c3 Language	English 🗸	Display Mode: Basic	♥ Log	out SNA	FindIT	 Help Q
Getting Started	File Operations									
Dashboard	r no operatione									1.0
Configuration Wizards	Operation Type:	O Update File								
Search		O Backup File								
<ul> <li>Status and Statistics</li> </ul>		Duplicate								
<ul> <li>Administration</li> </ul>	Source File Name:	Running Configuration								
System Settings		<ul> <li>Startup Configuration</li> </ul>								
User Accounts		<ul> <li>Mirror Configuration</li> </ul>								
Idle Session Timeout	Destination File Name:	Running Configuration								
Time Settings		Startup Configuration								
System Log										 _
<ul> <li>File Management</li> <li>Firmware Operations</li> </ul>	Apply Cancel									

17. Click **Apply** to confirm.

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#### 18. Click Done.



- 19. Power down Cisco network switch and power it up back again. Wait approx 5 minutes to reboot, and connection your Encoders, Decoders, and DHCP equipment (routers, servers and so on). After approx 2 minutes of bootup for the AV over IP equipment, you should see image on your displays
- 20. Log in to your Cisco network switch again and make sure that IGMP settings are intact:

sF500-48 48-Port 10/100 Sta	🖄 \$F500-48 48-Port 10/100 St. X 🔲											. o x		
← → C 🗋 192.168.1.251/csb8af766d/home.htm												¶☆ ≡		
🗰 Apps 🕒 Google 號 192.168.1.	🗰 Apps 🔓 G Google 🇱 192.168.1.250/c525do 🗋 TNS5-2400P 🚵 192.168.1.254/c558af7													
Small Business English V Logout About Help CISCO SF500-48 48-Port 10/100 Stackable Managed Switch											About Help			
Getting Started	stics IGMP Snooping													
Administration     Port Management	IGMP Snoopin	g Status: 🕑	Enable											
Smartport		Ormerel	ר											
VLAN Management	Apply	Cancel												
Spanning Tree	IGMP Snooping	g Table												
MAC Address Tables	Entry No.	VLAN ID	IGMP Snooping	Router	MRouter Ports	Query	Query	Query Max Response	Last Member	Last Member Query	Immediate	IGMP Querier	IGMP Querier	Querier
<ul> <li>Multicast</li> </ul>			Operational Status	IGMP Version	Auto Learn	Robustness	Interval (sec)	interval (sec)	Query Counter	Interval (mSec)	Leave	Status	Version	IP Addres
Properties	0 1	1	Enabled	v3	Enabled	2	125	10	2	1000	Enabled	Enabled	v3	
MAC Group Address	Copy Se	ttings	Edit											
IP Multicast Group Address IGMP Snooping														
• • • • • • • • • • • • • • • • • • •	4													•
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- 21. Rescan your components with Key Digital Management Software and make sure HDMI video switch is functional.
- 22. At this point your Linksys network switch is set and ready to use.
- 23. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

#### IGMP Setup Guide: Cisco C3850 Series 4K Systems (KD-IP822/922/1022)

#### **Cisco Catalyst 3850 series**

This guide describes how to use **Express Setup** to initially configure your Catalyst 3850 switch. We have modified original Express Setup guide from Cisco to help out you install it easily. For more installation and configuration information, see the Catalyst 3850 documentation on Cisco.com.

#### Running Express Setup & Configuration Setup for KD-IP822, KD-IP922, KD-IP1022

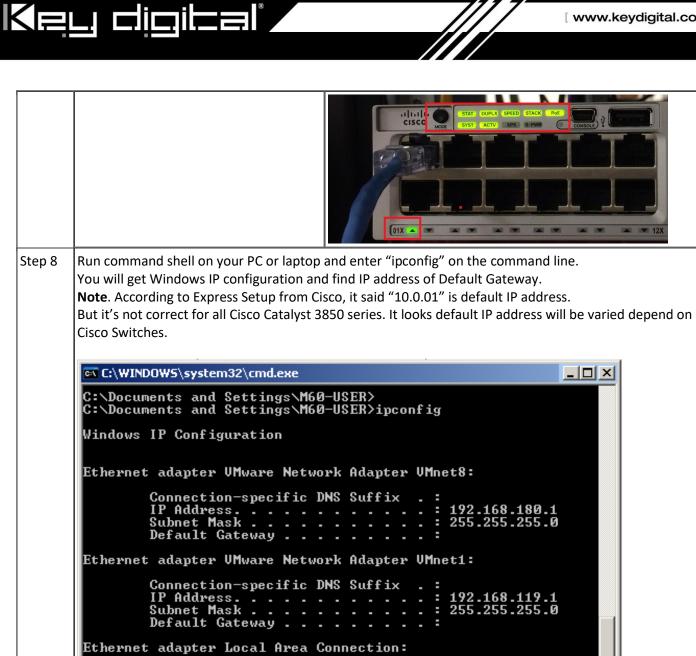
Key digital'

Use Express Setup to enter the initial IP information. This action enables the switch to connect to local routers and the Internet. You can access the switch through the IP address for further configuration. **Note** : Even you already finish Express Setup on your switch, please check every step one by one.

Step 1	Make sure that nothing is connected to the switch.	Longer
Step 2	<ul> <li>During Express Setup, the switch acts as a DHCP server. If your PC or laptop has a static IP address, temporarily change your PC or laptop settings to DHCP.</li> <li>Note. Do not connect LAN cable from your PC or laptop to Cisco's switch until Step 7.</li> </ul>	Internet Protocol (TCP/IP) Properties       ? ×         General       Alternate Configuration         You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.         Image: Comparison of the appropriate IP address: Comparison of the approprison of the appropriate IP address: Comparison
Step 3	Install the power supply modules. See the Switch Hardware Installation Guide for in http://www.cisco.com/go/cat3850_hw	e "Power Supply Installation" chapter in the <i>Catalyst 3850</i> structions.

Keu	dioite	

Step 4	Power the switch. AC power switches: Plug the AC power cord into the switch power supply and into a grounded AC outlet. DC power switches: See the wiring instructions in Step3	COPEEE
Step 5	<ul> <li>Observe the POST results. Approximately 30 seconds after the switch powers on, it begins self-test (POST), which can take up to 5 minutes to complete.</li> <li>During POST, the SYSTEM LED blinks green. When POST is complete, the SYSTEM LED tu The ACTV LED is green if the switch is acting as the active switch.</li> <li>Note Before going to the next step, wait until POST is complete.</li> <li>Troubleshooting:</li> <li>If the SYST LED does not turn solid green, or turns amber, the switch failed the POST. Co representative or reseller.</li> </ul>	rns solid green.
Step 6	<ul> <li>Press and hold the Mode button until all the LEDs next to the Mode button turn green.</li> <li>You might need to hold the button for more than 3 seconds.</li> <li>The switch is now in Express Setup mode.</li> </ul>	anter anter
	Troubleshooting: If the LEDs next to the Mode button blink when you press the button, release it. Blinking the switch is already configured and cannot go into Express Setup mode. For more infor <u>"Resetting the Switch" section</u> .	
Step 7	Connect a Category 5e/6 Ethernet cable to first port on the front panel of Cisco Switch. Connect the other end of the cable to the Ethernet port on your PC or laptop. Wait until the port LEDs on the switch and your PC or laptop or laptop are green or blinking green. Green LEDs indicate a successful connection. Troubleshooting: If the port LEDs do not turn green after about 30 seconds, make sure that: You are using an undamaged Category 5 or 6 Ethernet cable (Do not connect console ports)	333410



Connection-specific DNS Suffix

C:\Documents and Settings\M60-USER> C:\Documents and Settings\M60-USER> C:\Documents and Settings\M60-USER>

Default Gateway . . . . . . . . . . . 10.0.2.1

10.0. 255

0.2.2 255 255.0

#### [ www.keydigital.com ]

Step 9		rowser session on r the IP address of	• • •	Internet Explorer cannot display the webpage - Windows Internet cannot display the webpage - Windows Inter		
		l mentioned on St of Default Gatewa dress.		Favorites Suggested Sites V Connecting		
	<ul> <li>When a pop-up dialog window "Connect to 10.0.2.1" appear,</li> <li>skip the User name and</li> <li>enter the default password, "cisco"</li> <li>Troubleshooting:</li> <li>If the Express Setup window does not appear, make sure that any browser pop-up blockers or proxy settings are disabled and that any wireless client is disabled on your PC or laptop.</li> </ul>			The server 10.0.2.1 at level_15_access requires a username and password.		
			y browser pop-up are disabled and	Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection). User name: Password: Remember my password OK Cancel		
Step 10		ntinue" button on isco Device Manager - Express Set	1 1			
	<b>V</b>	JavaScript	JavaScript has	been enabled.		
		Internet Browser		e device manager will not run with this Internet browser. mation. Click continue to launch with the unsupported browser:		
	Q	Operating System		The operating system is supported.		
		Read Write Access	Note: The device manager is being accessed in read-write mode.			
		· · · · · · · · · · · · · · · · · · ·		Copyright (c) 2004-2014 by Cisco Systems, Inc.		
Step 11	Select the go Step1	-	the Express Setu	o window and change the network settings as you like, then		

	Note. Please do not click "Submit" button in this step.
	2010.0.2.1 : Cisco Device Manager - Express Setup
	Refresh 😓 Print 💡 Help
	Basic Settings Advanced Settings
	Network Settings
	Management Interface (VLAN ID)         1           IP Address:         192         168         1         251         Subnet Mask:         255 255 255.0
	Default Gateway: 192, 168, 1, 1
	Switch Password:
	Optional Settings
	Host Name: Switch
	System Date (DD/MM/YYYY):         11 / Oct / 2017 ·         System Time (HH:MM):         12 ·: 29 ·         PM ·           Time Zone:         (GMT - 05:00) Eastern Time (US & canada) ·         ·         ·         ·         ·
	Daylight Saving Time:  F Enable
Step 12	<ul> <li>Select the Advanced Settings tab on the Express Setup window <ul> <li>In the Telnet Access field, click Enable to use Telnet to manage the switch by using the command-line interface (CLI). If you enable Telnet access, you must enter a Telnet password.</li> <li>In the Telnet Password field, enter a password. The Telnet password can be from 1 to 25 alphanumeric characters, is case sensitive, allows embedded spaces, but does not allow spaces at the beginning or end. In the Confirm Telnet Password field, reenter the Telnet password.</li> </ul> </li> <li>And click Submit to save your changes and to complete the initial setup.</li> </ul>
	Basic Settings Advanced Settings
	Telnet Access:        • Enable O Disable        Telnet Password:        • • • • •    Confirm Telnet Password: • • • • •
	SNMP: C Enable C Enable
	SNMP Read Community:     SNMP Write Community:       System Contact:     System Location:
	System conduct.
	Submit Cancel

Step 13	<ul> <li>After you click Submit :</li> <li>The switch is configured and exits Express Setup mode.</li> <li>The browser displays a warning message and tries to connect with the earlier switch IP address. Typically, connectivity between the PC or laptop and the switch is lost because the configured switch IP address is in a different subnet from the</li> </ul>	Internet Protocol Version 4 (TCP/IPv4) Properties         General         You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.         Obtain an IP address automatically         IP address:         IP address:         IP address:         192 . 168 . 1 . 10         Subnet mask:         255 . 255 . 0
	IP address on the PC or laptop. Now, change IP address of your PC or laptop to static IP address in same subnet of the Switch.	Default gateway:          Obtain DNS server address automatically         Image: Server addresses:         Preferred DNS server:         Alternate DNS server:         Validate settings upon exit         Advanced         OK
Step 14	To configuring Multicast IGMP Snooping and Jumb you have to connect to the Switch via Telnet. <b>Note</b> . To access Telnet, you can use PuTTY or Tera We recommend to use Tera Term software and you <u>https://osdn.net/projects/ttssh2/downloads/68255</u> Run Tera Term software, and press Alt + N keys to 14-1. Select "TCP/IP" on Tera Term:New Connectio 14-2. Type the IP address of the Switch at the field 14-3. Type 23 at the field of TCP Port# and select " 14-4. Then click OK button.	Term software. u can download it as below link. 2/teraterm-4.96.exe/ open new connection. n Window. of Host: Ex) 192.168.1.251

	Tera Term - [disconnected] VT     Image: Control Window Help
	Tera Term: New connection         Image: TCP/IP         Host:         192.168.1.251         TCP port#:         23         Protocol:         UNSPEC         Image: Telnet
	© Serial Port:  OK Cancel Help
Step 15	When you connect to the switch via Telnet successfully, you have to log in to Telnet server of the switch. 15-1. Enter your Telnet password you assigned at Step12 if prompted. 15-2. Enter "enable" on Switch> prompt to enable privileged EXEC mode 15-3. Enter your Telnet password once again. Then 'Switch>' prompt will turn into 'Switch#' prompt as below. 192.168.1.251:23 - Tera Term VT File Edit Setup Control Window Help User Access Verification Password: Switch> Switch>enable
	Password: Switch#
Step 16	<b>To Enable Jumbo Frame for IP922.</b> Note: IP922 requires Jumbo Frame(8K) for video/audio transmission via 1G-BaseT with the Switch.
	<ul> <li>16-1. Enter "configure terminal" on Switch# prompt</li> <li>16-2. Enter "system mtu 9000" on Switch(config)# prompt</li> <li>16-3. Enter "end" on Switch(config)# prompt</li> <li>16-4. Enter "copy running-config startup-config" on Switch# prompt</li> <li>16-5. Press Enter key on the question of "Destination filename [startup-config]?"</li> </ul>

	🖳 192.168.1.251:23 - Tera Term ¥T	
,	File Edit Setup Control Window Help	
	Switch#	
	Switch#configure terminal	
	Enter configuration commands, one per line. End with CNTL/Z.	
	Switch(config)#system mtu 9000	
	Global Ethernet MTU is set to 9000 bytes.	
	Note: this is the Ethernet payload size, not the total	
	Ethernet frame size, which includes the Ethernet	
	header/trailer and possibly other tags, such as ISL or	
	802.1q tags.	
	Switch(config)#end	
	Switch#copy running-config startup-config	
	Destination filename [startup-config]?	
	Building configuration	
	Compressed configuration from 3614 bytes to 1620 bytes[OK]	
	Switch#	
	Switch#	
Step 17 T	o confirm Jumbo Frame setting on the switch.	
	7-1. Enter "show interfaces vlan 1" on Switch# prompt	
	ou can check MTU 9000 bytes in the status of Vlan1 interface	

	I 192.168.1.251:23 - Tera Term VT File Edit Setup Control Window Help	<u>- 0 ×</u>			
	Switch#show interfaces vlan 1				
	Vlan1 is up, line protocol is up				
	Hardware is Ethernet SUI, address is 00a3.d19b.2347 (bia 00a3.d19b.2347)				
	Internet address is 192.168.1.251/24				
	MTU 9000 bytes, BW 1000000 Kbit/sec, DLY 10 usec,				
	reliability 255/255, txload 1/255, rxload 118/255				
	Encapsulation ARPA, loopback not set				
	Keepalive not supported				
	ARP type: ARPA, ARP Timeout 04:00:00				
	Last input 00:00:00, output never, output hang never				
	Last clearing of "show interface" counters never				
	Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0				
	Queueing strategy: fifo				
	Output queue: 0/40 (size/max)				
	5 minute input rate 466196000 bits/sec, 10971 packets/sec				
Sten	To Enable Multicast IGMP Spooning for IP922				
•	<b>To Enable Multicast IGMP Snooping for IP922.</b> Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.				
•	<b>To Enable Multicast IGMP Snooping for IP922.</b> Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.				
•					
•	Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.				
•	Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration. 18-1. Enter "configure terminal" on Switch# prompt				
•	Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration. 18-1. Enter "configure terminal" on Switch# prompt 18-2. Enter "ip igmp snooping" on Switch(config)# prompt 18-3. Enter "ip igmp snooping vlan 1" on Switch(config)# prompt 18-4. Enter "ip igmp filter" on Switch(config)# prompt				
•	<ul> <li>Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.</li> <li>18-1. Enter "configure terminal" on Switch# prompt</li> <li>18-2. Enter "ip igmp snooping" on Switch(config)# prompt</li> <li>18-3. Enter "ip igmp snooping vlan 1" on Switch(config)# prompt</li> <li>18-4. Enter "ip igmp filter" on Switch(config)# prompt</li> <li>18-5. Enter "ip igmp snooping tcn query solicit" on Switch(config)# prompt</li> </ul>				
•	<ul> <li>Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.</li> <li>18-1. Enter "configure terminal" on Switch# prompt</li> <li>18-2. Enter "ip igmp snooping" on Switch(config)# prompt</li> <li>18-3. Enter "ip igmp snooping vlan 1" on Switch(config)# prompt</li> <li>18-4. Enter "ip igmp filter" on Switch(config)# prompt</li> <li>18-5. Enter "ip igmp snooping tcn query solicit" on Switch(config)# prompt</li> <li>18-6. Enter "ip igmp snooping querier" on Switch(config)# prompt</li> </ul>				
•	<ul> <li>Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.</li> <li>18-1. Enter "configure terminal" on Switch# prompt</li> <li>18-2. Enter "ip igmp snooping" on Switch(config)# prompt</li> <li>18-3. Enter "ip igmp snooping vlan 1" on Switch(config)# prompt</li> <li>18-4. Enter "ip igmp filter" on Switch(config)# prompt</li> <li>18-5. Enter "ip igmp snooping tcn query solicit" on Switch(config)# prompt</li> <li>18-6. Enter "ip igmp snooping querier" on Switch(config)# prompt</li> <li>18-7. Enter "ip igmp snooping querier version 2" on Switch(config)# prompt</li> </ul>				
•	<ul> <li>Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.</li> <li>18-1. Enter "configure terminal" on Switch# prompt</li> <li>18-2. Enter "ip igmp snooping" on Switch(config)# prompt</li> <li>18-3. Enter "ip igmp snooping vlan 1" on Switch(config)# prompt</li> <li>18-4. Enter "ip igmp filter" on Switch(config)# prompt</li> <li>18-5. Enter "ip igmp snooping tcn query solicit" on Switch(config)# prompt</li> <li>18-6. Enter "ip igmp snooping querier" on Switch(config)# prompt</li> <li>18-7. Enter "ip igmp snooping querier version 2" on Switch(config)# prompt</li> <li>18-8. Enter "ip igmp snooping vlan 1 immediate-leave" on Switch(config)# prompt</li> </ul>				
•	<ul> <li>Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.</li> <li>18-1. Enter "configure terminal" on Switch# prompt</li> <li>18-2. Enter "ip igmp snooping" on Switch(config)# prompt</li> <li>18-3. Enter "ip igmp snooping vlan 1" on Switch(config)# prompt</li> <li>18-4. Enter "ip igmp filter" on Switch(config)# prompt</li> <li>18-5. Enter "ip igmp snooping tcn query solicit" on Switch(config)# prompt</li> <li>18-6. Enter "ip igmp snooping querier" on Switch(config)# prompt</li> <li>18-7. Enter "ip igmp snooping querier version 2" on Switch(config)# prompt</li> <li>18-8. Enter "ip igmp snooping vlan 1 immediate-leave" on Switch(config)# prompt</li> <li>18-9. Enter "end" on Switch(config)# prompt</li> </ul>				
Step 18	<ul> <li>Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.</li> <li>18-1. Enter "configure terminal" on Switch# prompt</li> <li>18-2. Enter "ip igmp snooping" on Switch(config)# prompt</li> <li>18-3. Enter "ip igmp snooping vlan 1" on Switch(config)# prompt</li> <li>18-4. Enter "ip igmp filter" on Switch(config)# prompt</li> <li>18-5. Enter "ip igmp snooping tcn query solicit" on Switch(config)# prompt</li> <li>18-6. Enter "ip igmp snooping querier" on Switch(config)# prompt</li> <li>18-7. Enter "ip igmp snooping querier version 2" on Switch(config)# prompt</li> <li>18-8. Enter "ip igmp snooping vlan 1 immediate-leave" on Switch(config)# prompt</li> <li>18-9. Enter "end" on Switch(config)# prompt</li> <li>18-10. Enter "copy running-config startup-config" on Switch# prompt</li> </ul>				
•	<ul> <li>Note: IP922 requires Multicast IGMP Snooping for matrix switch configuration.</li> <li>18-1. Enter "configure terminal" on Switch# prompt</li> <li>18-2. Enter "ip igmp snooping" on Switch(config)# prompt</li> <li>18-3. Enter "ip igmp snooping vlan 1" on Switch(config)# prompt</li> <li>18-4. Enter "ip igmp filter" on Switch(config)# prompt</li> <li>18-5. Enter "ip igmp snooping tcn query solicit" on Switch(config)# prompt</li> <li>18-6. Enter "ip igmp snooping querier" on Switch(config)# prompt</li> <li>18-7. Enter "ip igmp snooping querier version 2" on Switch(config)# prompt</li> <li>18-8. Enter "ip igmp snooping vlan 1 immediate-leave" on Switch(config)# prompt</li> <li>18-9. Enter "end" on Switch(config)# prompt</li> </ul>				

	🖳 192.168.1.251:23 - Tera Term VT
	File Edit Setup Control Window Help
	Switch#configure terminal
	Enter configuration commands, one per line. End with CNTL/Z.
	Switch(config)#
	Switch(config)#ip igmp snooping
	Switch(config)#ip igmp snooping vlan 1
	Switch(config)#ip igmp filter
	Switch(config)#ip igmp snooping tcn query solicit
	Switch(config)#ip igmp snooping querier
	Switch(config)#ip igmp snooping querier version 2
	Switch(config)#ip igmp snooping vlan 1 immediate-leave
	Switch(config)#
	Switch(config)#end
	Switch#
	Switch#copy running-config startup-config
	Destination filename [startup-config]?
	Building configuration
	Compressed configuration from 3737 bytes to 1689 bytes[OK]
	Switch#
	Switch#
Step 19	To confirm multicast IGMP Snooping setting on the switch.
19	19-1. Enter "show ip igmp snooping detail" on Switch# prompt You can check global IGMP Snooping configuration on the switch.

### Key digital'

📜 192.168.1.251:23 - Tera Term ¥T		
File Edit Setup Control Window Help		
Switch#		
Switch#show ip igmp snooping		
Global IGMP Snooping configur	ation:	
IGMP snooping	: Enabled	
IGMPv3 snooping (minimal)	: Enabled	
Report suppression	: Enabled	
TCN solicit query	: Enabled	
TCN flood query count	: 2	
Robustness variable	: 2	
Last member query count	: 2	
Last member query interval	: 1000	
Vlan 1:		
IGMP snooping	: Enabled	
IGMPv2 immediate leave	: Enabled	
Multicast router learning mod	e : pim-dvmrp	
CGMP interoperability mode	: I GMP_ONLY	
Robustness variable	: 2	
Last member query count	: 2	
Last member query interval	: 1000	
Topology change	: No	
Switch#		
Switch#		<b>_</b>

Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

#### D-Link DGS-3630 Series Network Setup Guide

#### Login to the switch:

Key digital'

- **1.** Plug an Ethernet cable into any of the ports of the switch
- 2. Plug the other end into the Ethernet port of your computer
- **3.** Power on the switch
- 4. Check to see that the IP address of the computer is within this network Subnet: 10.90.90.xxx ("xxx" ranges 1~254). For example, 10.90.90.10

Internet Protocol Version 4 (TCP/IPv4)	Properties ? X					
General						
Obtain an IP address automatica	lly					
Ose the following IP address:						
IP address:	10 . 90 . 90 . 10					
You can get IP settings assigned automatically if your network support         You can get IP settings, you need to ask your network administrator         for the appropriate IP settings.         Obtain an IP address automatically         IP address:         IP address:         IP address:         IP address:         ID 90 90 10         Subnet mask:         Default gateway:         ID 90 90 1         Obtain DNS server address automatically         Image: Use the following DNS server addresses:         Preferred DNS server:       192 168 0 23         Alternate DNS server:       .         Image: Use the following DNS server						
Default gateway:	10 . 90 . 90 . 1					
Obtain DNS server address automatically						
Ose the following DNS server add	dresses:					
Preferred DNS server:	192.168.0.23					
Alternate DNS server:						
Validate settings upon exit	Advanced					
	OK Cancel					

**5.** Open the Web browser and enter **10.90.90.90** (default IP address of D-Link DGS-3630-52PC). The login window appears as below.

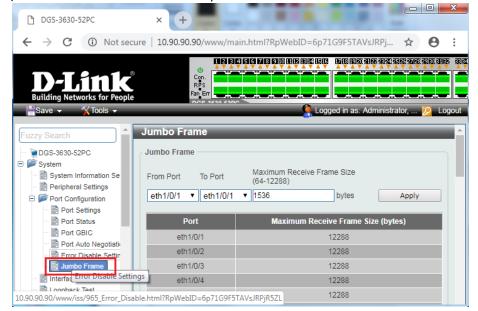
Connect to 10.90	0.90.90			
7				
User Name				
Password				
	Login	Reset		

**6.** Leave the user name and password fields empty. They are NOT required. Click "**Login**" to login to the switch configuration window.

#### Enable Jumbo Frame:

Key digital

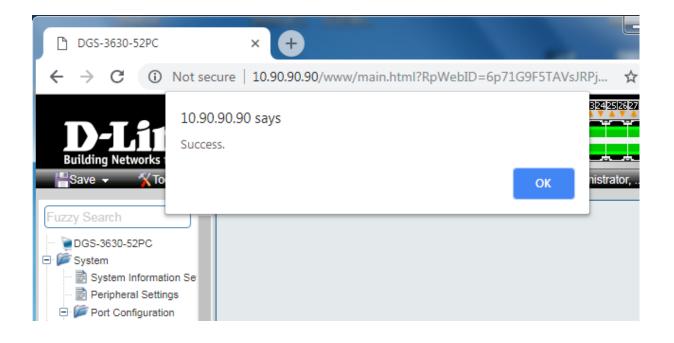
7. Find System -> Port Configuration -> Jumbo Frame in the menu on left side of the window. (IP922 requires Jumbo Frame(8K) for video/audio transmission via 1G-BaseT).



**8.** Select the last 52 port "**eth 1/0/52**" in the menu on To Port, then enter "**12288**" in Maximum Frame Size on the right side of the Jumbo Frame window as below. And then click "**Apply**" button.

Key digital",

Fuzzy Search		Jumbo Fram	e		
DGS-3630-52PC		Jumbo Frame -			
System     System Information Se     Peripheral Settings		From Port	To Port		Maximum Receive Frame Size (64-12288)
Port Configuration		eth1/0/1 🔻	eth1/0/13	٠	12288 bytes Apply
Port Settings			eth1/0/33	٠	·
Port Status		Port	eth1/0/34 eth1/0/35		Maximum Receive Frame Size (bytes)
Port GBIC		eth1/0/			12288
Port Auto Negotiati		eth1/0/	eth1/0/37		12288
Jumbo Frame		eth1/0/	eth1/0/38 eth1/0/39		12288
Interface Description		eth1/0/	eth1/0/33		12288
- 📄 Loopback Test		eth1/0/	eth1/0/41		12288
🕀 🃁 PoE		eth1/0/	eth1/0/42 eth1/0/43		12288
System Log System and SNTP			eth1/0/43		12288
Time Range		eth1/0/	eth1/0/45		12288
🕀 🃁 PTP (Precise Time Pro			eth1/0/46 eth1/0/47		12288
USB Console Settings	- 11	eth1/0/	eth1/0/47		12288
E SRM			eth1/0/49		
		eth1/0/1	eth1/0/50		12288
E Catures			eth1/0/51 eth1/0/52	Ŧ	12288
	*	eth1/(1/1	curriorJZ		12288



**9.** After applying, you should see Maximum Receive Frame Size **12288** for all ports as below.

			•	
Jumbo Frame				
Jumbo Frame				
From Port	To Port	Maximum Receive Frame Size (64-12288)		
eth1/0/1 🔻	eth1/0/52 ▼	12288 bytes		
	Port		Maximum Receive Frame Size (bytes)	
	Polt		Maximum Receive Frame Size (Dytes)	
	eth1/0/1		12288	
	eth1/0/2		12288	
	eth1/0/3		12288	
	eth1/0/4		12288	
	eth1/0/5		12288	
	eth1/0/6		12288	
	eth1/0/7		12288	
	eth1/0/8		12288	

#### Enable IGMP Snooping:

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10. Find L2 Features -> L2 Multicast Control -> IGMP Snooping -> IGMP Snooping Settings in the menu on left side of the window. (KD-IP922 requires IGMP Snooping for multicasting video/audio transmission via 1G-BaseT). Check the **Global State Enabled** box of Global Settings in IGMP Snooping Settings window as below. Click "Apply" button on the right side of IGMP Snooping Settings window.

• poysiem A	IGMP Snooping Settings			
E Features	Global Settings			
E · 📁 FDB E · 📁 VLAN	Global State	Enabled Disabled		Apply
<ul> <li>Image: Stress of the stress of</li></ul>	MI AN CARANA Cattings			
ERPS (G.8032)     Loopback Detection	VLAN Status Settings			
Link Aggregation	VID (1-4094)	Enabled		Apply
L2 Protocol Tunnel	IGMP Snooping Table			
E Dia Multicast Control	VID (1-4094)			Find Show All
IGMP Snooping Settings	Total Entries: 1			
IGMP Snooping Groups Settings	VID	VLAN Name	Status	
<ul> <li>IGMP Snooping Filter Settings</li> <li>IGMP Snooping Mrouter Settings</li> </ul>	1	default	Enabled	Show Detail Edit
■ IGMP Snooping Statistics Setting ■ MLD Snooping				1/1 < < 1 > > Go
mLD Shooping				

**11.** To add VLAN of the IGMP Snooping at the switch, **enter "1"** in VID of VLAN Status Settings. (VLAN must be added in IGMP Snooping). Then select "**Enabled**" and click "**Apply**" button.

IGMP Snooping Settings		
Global Settings		
Global State	Enabled  Disabled	Apply
VLAN Status Settings VID (1-4094)	●Enabled ⊖Disabled	Αρρίγ
VID (1-4094)		Find Show All



**12.** Click "Edit" button in IGMP Snooping Settings window.

IGMP Snooping Settings			
Global Settings			
Global State	•Enabled ODisabled		Apply
VLAN Status Settings			
VID (1-4094)	Enabled   Disabled		Apply
IGMP Snooping Table			
VID (1-4094)			Find Show All
Total Entries: 1			
VID	VLAN Name	Status	
1	default	Enabled	Show Detail Edit
			1/1  < < 1 > >  Go

**13.** In the IGMP Snooping VLAN Settings window, select below options as depicted below in red and then click "**Apply**" button:

- Minimum Version: 2
- Fast Leave: Enabled
- Report Suppression: Enabled
- Querier State: Enabled
- Query Version: 2
- Ignore Topology Change: Enabled

Import Shooping VLAN Settings         VID (1-4094)       1         Status       Enabled Disabled         Minimum Version       2         Fast Leave       Enabled Disabled         Report Suppression       Enabled Disabled         Suppression Time (1-300)       10         Querier State       Enabled Disabled         Query Version       2         Query Version       2         Query Interval (1-31744)       125         Max Response Time (1-25)       10         Robustness Value (1-7)       2         Last Member Query Interval (1-25)       1         Proxy Reporting       Enabled Disabled Source Address         Rate Limit (1-1000)       Imable Disabled Source Address         Ignore Topology Change       Enabled Disabled	IGMP Snooping VLAN Settings	S
Status          Enabled Disabled          Minimum Version       2         Fast Leave          Enabled Disabled          Report Suppression          Enabled Disabled          Suppression Time (1-300)       10         Querier State          Enabled Disabled          Query Version       2         Query Interval (1-31744)       125         sec       Max Response Time (1-25)         Max Response Time (1-25)       10         sec         Robustness Value (1-7)         2         Last Member Query Interval (1-25)         Proxy Reporting         Proxy Reporting         Rate Limit (1-1000)	IGMP Snooping VLAN Settings	
Status          Enabled Disabled          Minimum Version       2         Fast Leave          Enabled Disabled          Report Suppression          Enabled Disabled          Suppression Time (1-300)       10         Querier State          Enabled Disabled          Query Version       2         Query Interval (1-31744)       125         sec       Max Response Time (1-25)         Max Response Time (1-25)       10         sec         Robustness Value (1-7)         2         Last Member Query Interval (1-25)         Proxy Reporting         Proxy Reporting         Rate Limit (1-1000)		
Minimum Version       2         Fast Leave       Enabled         Report Suppression       Enabled         Suppression Time (1-300)       10         Querier State       Enabled         Query Version       2         Query Version       2         Query Interval (1-31744)       125         Max Response Time (1-25)       10         Robustness Value (1-7)       2         Last Member Query Interval (1-25)       1         Proxy Reporting       Enabled         Rate Limit (1-1000)       Image: State	VID (1-4094)	1
Fast Leave	Status	Enabled     Disabled
Report Suppression          Enabled        Disabled         Suppression Time (1-300)       10         Querier State          Enabled        Disabled         Query Version       2           Query Interval (1-31744)       125       sec         Max Response Time (1-25)       10       sec         Robustness Value (1-7)       2       Image: Comparison of the sec         Last Member Query Interval (1-25)       1       sec         Proxy Reporting       Enabled Disabled Source Address       No Limit	Minimum Version	2 🔹
Suppression Time (1-300)       10         Querier State	Fast Leave	Enabled      Disabled
Querier State          • Enabled       Disabled         Query Version       2           Query Interval (1-31744)       125       sec         Max Response Time (1-25)       10       sec         Robustness Value (1-7)       2           Last Member Query Interval (1-25)       1       sec         Proxy Reporting          ©Enabled          Source Address           No Limit	Report Suppression	Enabled Disabled
Query Version     2       Query Interval (1-31744)     125       Max Response Time (1-25)     10       Robustness Value (1-7)     2       Last Member Query Interval (1-25)     1       Proxy Reporting     Enabled Disabled Source Address       Rate Limit (1-1000)     Image: No Limit	Suppression Time (1-300)	10
Query Interval (1-31744)       125         Max Response Time (1-25)       10         Robustness Value (1-7)       2         Last Member Query Interval (1-25)       1         Proxy Reporting       ©Enabled ©Disabled Source Address         Rate Limit (1-1000)       Imit	Querier State	Enabled     Disabled
Max Response Time (1-25)       10       sec         Robustness Value (1-7)       2         Last Member Query Interval (1-25)       1       sec         Proxy Reporting       Enabled © Disabled Source Address       No Limit         Rate Limit (1-1000)       Image: No Limit       No Limit	Query Version	2
Robustness Value (1-7)     2       Last Member Query Interval (1-25)     1       Proxy Reporting     Enabled Disabled Source Address       Rate Limit (1-1000)     I	Query Interval (1-31744)	125 sec
Last Member Query Interval (1-25)     1     sec       Proxy Reporting     Enabled	Max Response Time (1-25)	10 sec
Proxy Reporting     Enabled <ul> <li>Disabled              Source Address</li> <li>Rate Limit (1-1000)</li> <li>No Limit</li> </ul>	Robustness Value (1-7)	2
Proxy Reporting     Source Address       Rate Limit (1-1000)     Image: Constraint of the second se	Last Member Query Interval (1-25)	1 sec
	Proxy Reporting	
Ignore Topology Change	Rate Limit (1-1000)	✓ No Limit
	Ignore Topology Change	Enabled     Disabled

#### **Network IP Settings:**

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14. Find L3 Features -> Interface -> IPv4 Interface. Select "Edit" button.

#### This D-Link switch series can be set to IP address range 10.x.x.x. ONLY.

If you use a single network switch, you may not need to change network IP settings. But if you are stacking network switches (connecting multiple network switches through D-Link 10G fiber cables), it is recommended to set first on to 10.90.90.91, second to 10.90.90.92, and so on.

#### Set Get IP From "Static", set Subnet Mask to 255.0.0.0 and click Apply.

If you change an IP address, the page will be refreshed and you will need to log in again using new IP address, same user name and password. If you did not change IP address just continue to the next step. Make sure your screen looks exactly like pictured below.

Fuzzy Search	IPv4 Interface			
DGS-3630-52PC	/ IPv4 Interface			
System				
Management	Interface VLAN (1-4094)			Apply Find
Government     G	Total Entries: 1			
	Interface State	IP Address	Secondary	Link Status
Gratuitous ARP		10.90.90/255.0.0.0 Manual	Secondary	
IPv6 Neighbor     Interface	vlan1 Enabled	10.90.90/205.0.0.0 Manual	No	Up Edit Delete
IPv4 Interface				1/1 < 1 > > Go
IPv6 Interface				
<ul> <li>Dopback Interface</li> <li>Null Interface</li> </ul>				
IPv4 Interface Configure				
IPv4 Interface Settings	DHCP Client			
<b>'</b>				
Interface	vlan1			Back
Settings				
State	Enabled •			
IP MTU (512-16383)	1500 bytes			
IP Directed Broadcast	Disabled •			
Description	64 chars			Apply
IP Settings				
Get IP From	Static			
IP Address	10 - 90 - 90 - 91			
Mask	255 · 0 · 0 · 0			
Secondary				Apply Delete
Secondary IP Entry				
Total Entrica: 0				
Total Entries: 0				
IP Address	Mask	Boot Mode	Secondary	

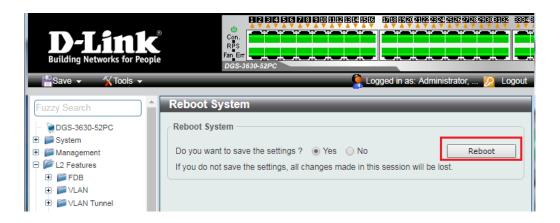
**15.** To save all Running Configurations to Startup-Configuration, Find **Save** → **Save Configuration** in the menu on top of the window. Then click "**Apply**" button in Save Running Configuration to startup-config window.

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Building Networks fo	r People	DGS-3630-52PC	
💾 Save 👻 🌱 🏹 Tool	3 <b>v</b>		👰 Logged in as: Administrator, 🙋 Logout
Save Configuration			
DGS-3630-52PC  DGS-36		Save Configuration File Path C:/config.cfg	Apply

**16.** To reboot the switch, Find **Tool**  $\rightarrow$  **Reboot System** in the menu on top of the window. Then click "**Reboot**" button in Reboot System window. The switch will be rebooted automatically.

<b>D-L</b> Building Netw	interest of the second	
Save -	🐒 Tools 👻 🧖 Lo	gged in as: Adr
Fuzzy Search	Firmware Upgrade & Backup	•
) DGS-3630-	Configuration Restore & Backup	•
E System	Certificate & Key Restore & Backup	•
<ul> <li>Management</li> <li>Imagement</li> <li>Imagemen</li></ul>	Log Backup	•
	Ping	
⊕ 📁 VLAN T ⊕ 📁 STP	Trace Route	
ERPS (1)	Reset	
📄 📄 Loopbau	Reboot System	
🚽 📄 Flex Lin	DLMS Settings	
	or runner ast Control	



#### Edgecore AS4610-54T / Cumulus Linux version 3.7.15

#### For advanced users only – support is limited for this model!

Cumulus Linux was verified using version v3.7.15. The below commands creates VLAN 2 and configures a network bridge for IGMP snooping.

net del all net add dns nameserver ipv4 10.105.104.1 net add time zone Etc/UTC net add time ntp server 0.cumulusnetworks.pool.ntp.org iburst net add time ntp server 1.cumulusnetworks.pool.ntp.org iburst net add time ntp server 2.cumulusnetworks.pool.ntp.org iburst net add time ntp server 3.cumulusnetworks.pool.ntp.org iburst net add time ntp source eth0 net add snmp-server listening-address localhost net add interface swp1-49 igmp net add interface swp49 igmp query-max-response-time 10 net add routing defaults datacenter net add routing service integrated-vtysh-config net add routing log syslog informational net add username cumulus nopassword net add ptp global slave-only no net add ptp global priority1 255 net add ptp global priority2 255 net add ptp global domain-number 0 net add ptp global logging-level 5 net add ptp global path-trace-enabled no net add ptp global use-syslog yes net add ptp global verbose no net add ptp global summary-interval 0 net add ptp global time-stamping net add bridge bridge mld-version 2 net add bridge bridge ports swp1,swp2,swp3,swp4,swp5,swp6,swp7,swp8,swp9,swp10,swp11,swp12,swp13,swp14,swp15,swp16,swp17,swp18,swp19,swp20,swp21,s wp22,swp23,swp24,swp25,swp26,swp27,swp28,swp29,swp30,swp31,swp32,swp33,swp34,swp35,swp36,swp37,swp38,swp39,swp40,swp41 ,swp42,swp43,swp44,swp45,swp46,swp47,swp48,swp49 net add bridge bridge pvid 1 net add bridge bridge vids 2 net add bridge bridge vlan-aware net add interface eth0 ip address 10.105.104.253/24 net add interface eth0 ip gateway 10.105.104.1 net add interface swp1-49 bridge pvid 2 net add interface swp1-49 bridge vids 2 net add interface swp1-49 mtu 9216 net add interface swp49 link speed 10000 net add dot1x radius accounting-port 1813 net add dot1x max-number-stations 4 net add dot1x radius authentication-port 1812 net add dot1x eap-reauth-period 0 net add dot1x mab-activation-delay 30

```
net commit
```

In addition, manually add the following line to the bridge configuration in "/etc/network/interfaces"

bridge-mclmi 30

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Modify the commands as needed to best fit the network environment. This configuration enables port 49 for uplink to another switch to expand the system.

#### IGMP Setup Guide: Engenius 1080p Systems (KD-IP1080, KD-IP120)

- It is recommended to reset the switch to factory defaults before configuring for multicast operation. Power up the device, wait for about 2 minutes, using a paper clip press and hold a reset button for more than 10 seconds and then release. After device is rebooted power down and then power up the device. Wait while the device is restarted and ready to use.
- 2. Connect your PC to the switch directly using a network cable.

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- 3. Configure your PC's IP address to the same range as the switch (default **192.168.0.xxx**).
- 4. Enter the switch's IP address (default is **192.168.0.239**) in your browser and press ENTER.
- 5. Enter user name and password (default is "admin" and "password"). Then click Log In.

🕞 Login - Google		<u>_ </u>	L
G G S The http://192.168.0.239	/log 🔎 🔸	🖌 🗖 Login 🛛 🗙	÷
<u> </u>	łp		
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		admin	
EWS7952FP		••••••	
		Login	
		Copyright © 2013 EnGenius. All rights reserved.	
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 On the left select Switch. Navigate to System -> IP Settings -> IPv4. Under Auto Configuration select Static. Change an IP address to 192.168.1.250, Subnet Mask to 255.255.255.0, Default Gateway to 192.168.1.1 (in this case), and at the bottom click Apply.

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EnGenius®	별 📩 🔿 🙂 E Backup Upgrade Reset Reboot Lo
EWS7952FP	48-Port Gigabit PoE+ L2 Wireless Management Switch with 4 Dual-Speed SFP
Controller   Switch	IPv4
System	IPv4 Address Settings
Summary	Auto Configuration: <ul> <li>Static</li> <li>DHCP</li> </ul>
IP Settings	IPv4 Address: 192.168.1.250
IPv4	Subnet Mask; 255.255.0
IPv6	
System Time	Gateway: 192.168.1.1
Port Settings	DNS Server 1: 0.0.0
⊳ PoE	DNS Server 2: 0.0.0.0
EEE	
< L2 Feature	
VLAN	Apply
🐣 Management	
X ACL	
🕹 QoS	
🔑 Security	
🛃 Monitoring	
Diagnostics	

 Page will refresh. Configure your PC's IP address to the same range as the switch (default 192.168.1.xxx). Enter the switch's IP address (default is 192.168.1.250) in your browser and press ENTER. Log in again with the same user name /password. 8. On the left select Switch. Navigate to L2 Feature -> IGMP Snooping -> Global Settings. Under Status select Enabled, under Version: V2 and under Report Suppression: Enabled. Click Apply.

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] 🏠 ▼ 🖾 → 🖃 🖶 ▼ <u>P</u> age ▼ S	afety 🔹 Tools 👻 😧 💌	
EnGeniius®	별 또 🔊 Backup Upgrade Reset	U ⊡ ∧ Reboot Logout
EWS7952FP	48-Port Gigabit PoE+ L2 Wireless Management Switch with 4 Dual-Speed SFP Q Search	
Controller   Switch	Global Settings	
System	Settings	
L2 Feature	Status:  Enabled	
<ul> <li>Link Aggregation</li> </ul>	Version:   V2   V3	
Mirror Settings	Report Suppression: <ul> <li>Enabled</li> <li>Disabled</li> </ul>	
⊳ STP		
MAC Address Table		
▷ LLDP		Apply
▲ IGMP Snooping		
Global Settings		
VLAN Settings		
Querier Settings		
Group List		
Router Settings		
MLD Snooping		
Jumbo Frame		
Stan VLAN		
🐣 Management		
X ACL		
🕹 QoS		
🔑 Security		
Niagnostics		~
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 Navigate to L2 Feature -> IGMP Snooping -> VLAN Settings. Click on Edit button on the right in the VLAN ID 1 line. Under IGMP Snooping Status select Enabled, under Fast Leave select Enabled. Click check mark button to apply settings.

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EnGenius®				kup Upgra	<b>∲ U</b> de Reset Reboot	Logout			
EWS7952FP	48-Port Gigabit PoE+	L2 Wireless Management Sv	vitch with 4 Dual-Spee	d SFP	<b>Q</b> Search				
Controller   Switch	VLAN Settings								
🗘 System	VLAN ID	IGMP Snooping Status	Fast Leave						
L2 Feature	1	Enabled 🔽	Enabled	<b>~</b>	< ⊘				
Link Aggregation									
Mirror Settings									
▷ STP									
MAC Address Table									
▶ LLDP									
<ul> <li>IGMP Snooping</li> </ul>									
Global Settings									
VLAN Settings									
Querier Settings									
Group List									
Router Settings									
MLD Snooping									
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Stan VLAN									
🐣 Management									
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🕹 QoS									
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- 10. Now the switch should work properly with IP audio/video equipment.
- 11. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

Linksys LGSxxxMPC setup guide for KD-IP922, KD-IP822, and KD-IP1080 systems Must use firmware version: 1.00.01.03 | newer firmware will not work

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#### \*Steps related to stacking multiple switches are in red\*

- 1. Ensure that your PC is set to a static IP address that is within the subnet of the network switch (192.168.1.xyz)
- Connect to the network switch via its default IP address 192.168.1.251. The default login credentials are:

Username: "admin"		•	usemame
Password: "admin"	LINKSYS		
Password: admin	LGS352MPC	Ð	password
			Sign in
After connecting, change the password to gain access to the switch.			Copyright © 2020 Belkin All rights reserved

3. Set the IP address of the switch to the desired address. This setting is accessed via System -> IP settings -> IPv4 Management.

#### 3a. If stacking multiple network switches, each will require a unique IP address.

	IPv4 Management			
System	VLAN ID	Address	Subnet Mask	Configuration
Summary	1	192.168.1.251	255.255.0.0	Static 🗸
P Settings				
IPv4 Management				
15 A.H.	1			

- Key digital'
  - Enable IGMP snooping. This setting is accessed via L2 feature -> IGMP Snooping -> Global settings. Ensure all settings are in line with the image.

	IGMP Snooping
💿 System	Global Settings Status: <ul> <li>Enabled</li> <li>Disabled</li> </ul>
L2 Feature	Mode: OIP @MAC
<ul> <li>Link Aggregation</li> <li>Mirror Settings</li> </ul>	Report Suppression: 5 (1-25)
D STP	
▷ LBD	
MAC Address Table	
▷ LLDP	
IGMP Snooping	
Global Settings	

5. Enable IGMP snooping for your VLAN. This setting is accessed via L2 feature -> IGMP Snooping -> VLAN settings. Use IGMP version 2. VLAN 1 is used by default. Other VLANs are compatible as well.

#### 5a. Ensure Fast Leave is disabled when stacking.

	VLAN Settings				
🔅 System	VLAN ID	IGMP Snooping Status	Version	Fast Leave	
L2 Feature	1	Enabled	v2	Disabled	۲
Link Aggregation					
Mirror Settings					
⊳ STP					
▷ LBD					
MAC Address Table					
▷ LLDP					
<ul> <li>IGMP Snooping</li> </ul>					
Global Settings					
VLAN Settings					

6. Enable the IGMP querier This setting is accessed via L2 feature -> IGMP Snooping -> Querier settings.

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6a. Select one switch to be the IGMP querier. Enable the querier on this switch only and disable the IGMP querier on all other switches.

	Querier	Settings							
System	VLAN ID	Querier State	Querier Version	Querier Status	Interval	Max Response Interval	Startup Query Counter	Startup Query Interval	
L2 Feature	1	Enabled	v2	Querier	125	12	2	15	۶
Link Aggregation									
Mirror Settings									
⊳ STP									
⊳ LBD									
MAC Address Table									
▷ LLDP									
IGMP Snooping									
Global Settings									
VLAN Settings									
Querier Settings									
Group List									
Router Settings									
MLD Snooping									
Multicast Filtering									
Jumbo Frame									

7. Set the frame size to its maximum value of 10240. L2 feature -> Jumbo Frame

	Jumbo Frame
💿 System	Setting
< L2 Feature	Jumbo Frame: 10240 Bytes (1522-10240)
b Link Aggregation	
Mirror Settings	
⊳ STP	
⊳ LBD	
MAC Address Table	
⊳ LLDP	
▷ IGMP Snooping	
▷ MLD Snooping	
Multicast Filtering	
Jumbo Frame	



8. Enable Multicast Filtering. L2 feature -> Multicast Filtering

	Multicast Filtering
💿 System	
< L2 Feature	State :
b Link Aggregation	
Mirror Settings	
⊳ STP	
▷ LBD	
MAC Address Table	
▷ LLDP	
▷ IGMP Snooping	
MLD Snooping	
Multicast Filtering	
Jumbo Frame	

- 9. Verify all settings are applied after power cycling. The switch should now be ready to use.
- 10. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

#### IGMP Setup Guide: Linksys 1080p Systems (KD-IP1080, KD-IP120)

- 1. **IMPORTANT**: Disconnect all the DHCP devices like routers, servers from the Linksys network switch.
- 2. Locate a pinhole "RESET" button at the front panel left bottom corner of your Linksys network switch. Using a paper clip press and hold a reset button for more than 10 seconds and then release. Wait while the device is restarted and ready to use (about 5min).
- 3. IMPORTANT: Make sure the blue "SYSTEM"LED next to the pinhole "RESET" button is flashing.
- 4. **IMPORTANT**: At this point all the displays should be displaying distorted randomly flashing video images.
- 5. Connect your PC to the Linksys network switch directly using a network cable.

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- If you have not done yet, configure your PC's IP address to the same range as the switch (default 192.168.1.xxx).
- Enter the switch's IP address in your browser and press ENTER (check the user manual for a default IP address - it is usually 192.168.1.251).
- 8. Enter user name and password (check the user manual for a default user name and password; it is usually "admin" for both). Then click Log In.

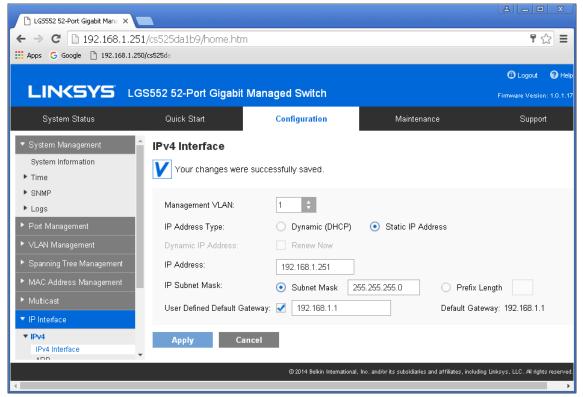
http://192	2.168.1.251/ is not 🗙		- 0 X
← ⇒ C	192.168.1.	251/csb0244444/config/log_off_page.htm	☆ =
For quick access	, place your bookmarks	s here on the bookmarks bar. <u>Import bookmarks now</u>	
	LINKS) LGS552P 52-	/S Port Gigabit PoE+ Managed Switch	
	AUTHENTI	CATION REQUIRED	
	Usemame:	admin	
	Password:		
		Log In	•

9. Navigate to Configuration -> IP Interface -> IPv4-> IPv4 Interface. Select Static IP Address. IP address can be changed by the administrator depending on the network configuration. If you are using multiple network switches it is recommended to set first one to 192.168.1.251, second to 192.168.1.252, and so on (we will leave the IP address unchanged). Set Subnet Mask to 255.255.255.0, set User Defined Default Gateway to 192.168.1.1 (in this case), make sure that Management VLAN is set to "1" and click Apply. If you changed an

IP address page will refresh and you will need to log in again using new IP address, same user name and password. If you did not change IP address just continue to the next step.

10. Make sure your screen looks exactly like pictured below.

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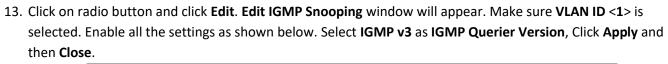
11. Navigate to **Multicast** -> Future Configuration. Select Enable under Bridge Multicasting Filtering and click Apply.

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🕒 LG5552 52-Port Gigabit Mana 🗙				
← → C 🗋 192.168.1.251	./cs525da1b9/home.ht	n		¶☆ =
🗰 Apps Ġ Google 🗋 192.168.1.250	/cs525da			
				🙆 Logout 🛛 🥹 Help
	S552 52-Port Gigabi	Managed Switch		Firmware Version: 1.0.1.17
System Status	Quick Start	Configuration	Maintenance	Support
▼ System Management 🄶	Feature Configur	ation		
System Information	V Your changes we	re successfully saved.		
<ul> <li>Time</li> <li>SNMP</li> </ul>	•			
Logs	Global			
Port Management	Bridge Multicast Filter	ing: 🛃 Enable		
► VLAN Management	VLAN Settings			
Spanning Tree Management	VLAN ID:	1 🗘		
MAC Address Management	IPv4 Multicast Forward	ling: 💿 By MAC Address		
▼ Multicast		<ul> <li>By IPv4 Group Address</li> </ul>	3	
Feature Configuration		<ul> <li>By Source Specific IPv</li> </ul>	4 Group Address	
IGMP Snooping Multicast Router Ports			·	
	Apply C	ancel		
		© 2014 Belkin International	l, Inc. and/or its subsidiaries and affiliates, inc	oluding Linksys, LLC. All rights reserved.

12. Navigate to **Multicast** -> **IGMP Snooping**. Select **Enable** under **IGMP Snooping**, click **Apply**.

🕒 LG5552 52-Port Gigabit Mani: X										
← → C 🗋 192.168.1.251	1/cs525	5da1b9	/home.htr	n					¶☆≣	
🗰 Apps 🛛 G Google 🗋 192.168.1.250	🗰 Apps 🕒 G Google 🕒 192.168.1.250/cs525da									
								(	🕑 Logout 🛛 🥹 Help	
LINKSYS LG	S552	52-Po	rt Gigabii	Manag	ed Switch				ware Version: 1.0.1.17	
System Status	Q	uick Sta	rt	C	Configuration		Maintenance		Support	
▼ System Management	IGM	P Sno	ooping							
System Information	V	Your c	hanges wei	e succes:	sfully saved.					
<ul> <li>Time</li> <li>SNMP</li> </ul>										
<ul> <li>Logs</li> </ul>	IG	MP Sno	oping: 📝	Enabled						
Port Management		Apply	C	ancel						
▶ VLAN Management										
Spanning Tree Management	IGN	IP Snoo	ping Table							
MAC Address Management		VLAN ID	IGMP Snooping	Router IGMP	Auto Learn MRouter Ports	IGMP Querier Status	IGMP Querier Version	IGMP Querier IP Address	Immediate Leave	
▼ Multicast			Status	Version						
Feature Configuration	$\bigcirc$	1	Disabled	vЗ	Enabled	Disabled	v2	192.168.1.251	Disabled	
IGMP Snooping										
Multicast Router Ports										
- 1 AU					© 2014 Belkin Inter	ational. Inc. and/or its	subsidiaries and affili	ates, including Linksvs.	LLC. All rights reserved.	
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LG5552 52-F	Port Gigabit Mana 🗙 📃			
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👯 Apps 🛛 G Go	ogle 🗋 192.168.1.250/cs525da			
				🕒 Logout 🛛 Ə Help
LIN			Edit IGMP Snooping	/ersion: 1.0.1.17
Syste	Select Your VLAN			upport
▼ System M	VLAN ID:	1 \$		
System In	VLAN Settings			
<ul> <li>Time</li> <li>SNMP</li> </ul>	IGMP Snooping Status:	🛃 Enable		
<ul> <li>Logs</li> </ul>	Auto Learn MRouter Ports:	🗹 Enable	Immediate Leave: 🗹 Enable	
🕨 Port Mana	IGMP Querier:	🛃 Enable		
► VLAN Mar	IGMP Querier Version:	O IGMPv2	● IGMPv3	
► Spanning	Querier Source IP Address:	🔘 Auto	● User Defined 192.168.1.251 \$	nediate
<ul> <li>MAC Addr</li> <li>Multicast</li> </ul>	Apply C	lose		ve
Feature C				abled
IGMP Sno				
Multicast F				
- · ·			© 2014 Belkin International, Inc. and/or its subsidiaries and affiliates, including	Linksys LLC All rights received
•			e zo r o cara international, are, anover its sousionares and a matter, medoing	Anksys, Eco. Arnights reserved.

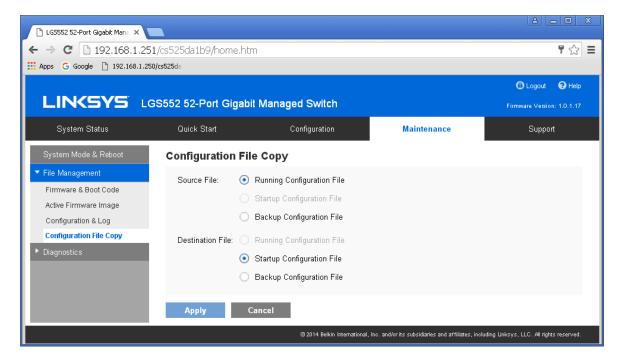
14. Refresh your browser, go to **IGMP Snooping** tab and make sure you have an image as below:

🕒 LG5552 52-Port Gigabit Mana 🗙 🗾	<u></u>								
← → C 🗋 192.168.1.251/0	s525da1b9	/home.htr	n					<b>F</b> 🖒	≡
🛗 Apps 🔓 Google 🗋 192.168.1.250/cs	525da								
							(	🗈 Logout 🛛 😧	Help
	552 52-Po	rt Gigabit	Manag	ed Switch			Firm	ware Version: 1.0.	
System Status	Quick Sta	rt	c	Configuration		Maintenance		Support	
💌 System Management 🔶	IGMP Sno	ooping							
System Information	Vour d	hanges wer		sfully saved.					
▶ Time		nanyes wei	e success	nully saveu.					
▶ SNMP	IGMP Sno	oping: 📝	Enabled						
▶ Logs	101011 0110	oping. 💌	Linabled						
Port Management	Apply	Ci	ancel						
VLAN Management									
Spanning Tree Management	IGMP Snoo								
MAC Address Management	VLAN ID	IGMP Snooping	Router IGMP	Auto Learn MRouter Ports	IGMP Querier Status	IGMP Querier Version	IGMP Querier IP Address	Immediate Leave	
▼ Muticast	ID.	Status	Version	WINDUIGI POITS	Status	Version	IP Addless	Leave	
Feature Configuration	0 1	Enabled	vЗ	Enabled	Enabled	v3	192.168.1.251	Enabled	
IGMP Snooping	Edit								
Multicast Router Ports	Call								
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				@ 2014 Belkin Interr	national, Inc. and/or its	subsidiaries and affili	ates, including Linksys,	LLC. All rights rese	erved.
▲									→ F

15. **IMPORTANT**: At this point all the displays should be displaying stable running video from the selected sources. If you do not have them displaying properly, than network switch is configured incorrectly.

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16. Navigate to **Maintenance** -> **File Management** -> **Configuration File Copy**. Select radio buttons as shown below, click **Apply**. This will save current configuration and will apply this configuration every time switch is powered up.



- 17. **IMPORTANT**: Now you can connect back you DHCP equipment (routers, servers and so on).
- 18. Power down Linksys network switch and power it up back again. Wait for the whole system to start and until you can see video on your displays.

19. Log in to your Linksys network switch again and make sure that IGMP settings are intact:

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<ul> <li>SNMP</li> <li>Logs</li> </ul>	Global						
<ul> <li>Port Management</li> </ul>	Bridge Multicast Filtering	: 🗹 Enable					
<ul> <li>VLAN Management</li> </ul>	VLAN Settings						
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- 20. Rescan your components with Key Digital Management Software and make sure HDMI video switch is functional.
- 21. At this point your Linksys network switch is set and ready to use.
- 22. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

#### IGMP Setup Guide: Linksys 4K Systems (KD-IP822, KD-IP922, KD-IP1022)

- 1. **IMPORTANT**: Disconnect all the DHCP devices like routers, servers from the Linksys network switch.
- 2. Locate a pinhole "RESET" button at the front panel left bottom corner of your Linksys network switch. Using a paper clip press and hold a reset button for more than 10 seconds and then release. Wait while the device is restarted and ready to use (about 5min).
- 3. **IMPORTANT**: Make sure the blue "SYSTEM"LED next to the pinhole "RESET" button is flashing.
- 4. **IMPORTANT**: At this point all the displays should be displaying or flashing Key Digital logo with information stamp.
- 5. Connect your PC to the Linksys network switch directly using a network cable.

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- If you have not done yet, configure your PC's IP address to the same range as the switch (default 192.168.1.xxx).
- Enter the switch's IP address in your browser and press ENTER (check the user manual for a default IP address - it is usually 192.168.1.251).
- 8. Enter user name and password (check the user manual for a default user name and password; it is usually "admin" for both). Then click Log In.

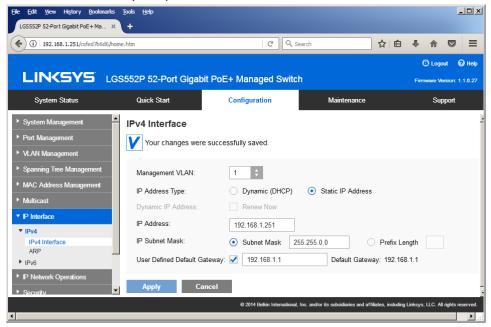
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	Username:	admin								
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				Log In						
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9. Navigate to Configuration -> IP Interface -> IPv4-> IPv4 Interface. Select Static IP Address. IP address can be changed by the administrator depending on the network configuration. If you are using multiple network switches it is recommended to set first one to 192.168.1.251, second to 192.168.1.252, and so on (we will leave the IP address unchanged). Set Subnet Mask to 255.255.0.0, set User Defined Default Gateway to 192.168.1.1 (in this case), make sure that Management VLAN is set to "1" and click Apply. If you changed an

IP address page will refresh and you will need to log in again using new IP address, same user name and password.

10. Make sure your screen looks exactly like pictured below.

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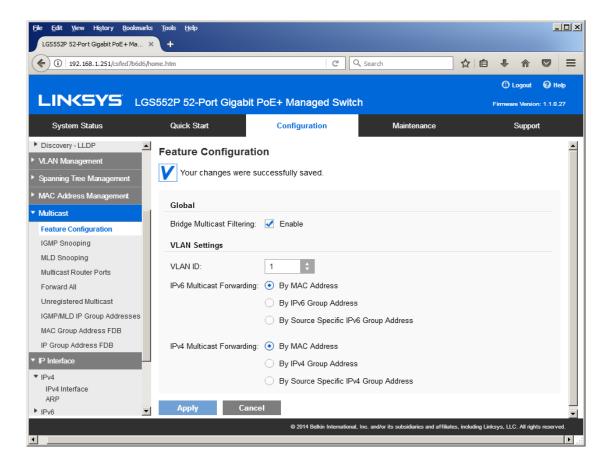


11. Navigate to Port Management -> Ports. Select Enable under Jumbo Frames and click Apply.

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LINKSYS LO	S552F	9 52-F	Port Gigabit P	oE+ Manag	ed Switch				Firmwar	e Versio	n: 1.1.0.	
System Status	Q	uick Sta	rt	Configurat	ion	Main	tenance		:	Suppor	t	
System Management	Por	ts			_							
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Ports	14	resetti	ng the device.									
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Green Ethernet												
PoE		Apply	Cancel									
Discovery - LLDP				_								
VLAN Management	Por	t Table										
Spanning Tree Management		Port	Port Type	Operational Status	Auto Negotiation	Port Speed	Duplex Mode	Protected Port	LAG			
MAC Address Management	0	GE1	1000M-copper	Up	Enable	1000M	Full	Unprotected				
Multicast		GE2	1000M-copper	Down				Unprotected				
P Interface	0	GE3	1000M-copper	Up	Enable	1000M	Full	Unprotected				
' IPv4		GE4	1000M-copper	Down				Unprotected				
	. 0	GE5	1000M-copper	Down				Unprotected				

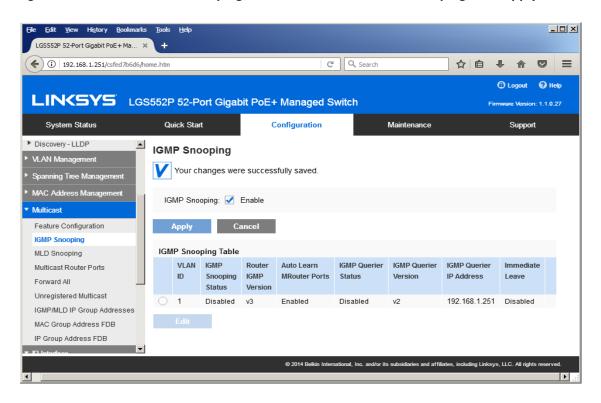
12. Navigate to Multicast -> Future Configuration. Select Enable under Bridge Multicasting Filtering and click Apply.

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13. Navigate to Multicast -> IGMP Snooping. Select Enable under IGMP Snooping, click Apply.

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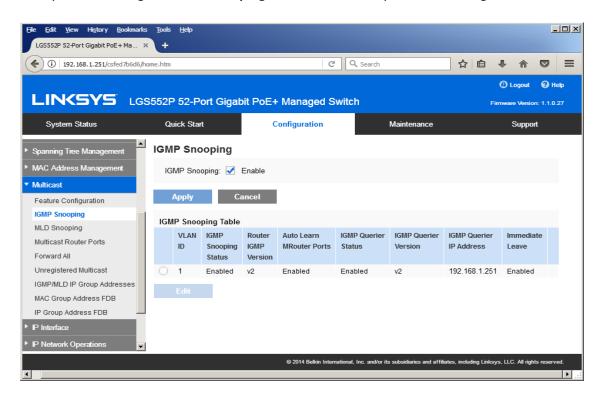
 Click on radio button and click Edit. Edit IGMP Snooping window will appear. Make sure VLAN ID <1> is selected. Enable all the settings as shown below. Select IGMP v2 as IGMP Querier Version, Click Apply and then Close.

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File Edit View	w Hi <u>s</u> tory <u>B</u> ookmarks <u>T</u> ools	Help					_	LO X
LGS552P 52-P	Port Gigabit PoE+ Ma 🗙 🕂							
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Syster	Your changes were	e successfully saved.				ppor	t	
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▶ Time	VLAN Settings							
► SNMP	IGMP Snooping Status:	Enable						
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MAC Addre	Querier Source IP Address	: 🔿 Auto	● User Defined 192.168.1.251 \$			bled		
<ul> <li>Multicast</li> </ul>	Apply	Close						
Feature Co								
IGMP Snot								
III.29 ON00			© 2014 Belkin International, Inc. and/or its subsidiaries and affiliat	es, includina Links	ws. LLC	. All right	s reserv	ed.
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15. Refresh your browser, go to **IGMP Snooping** tab and make sure you have an image as below:

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16. Navigate to **Maintenance** -> **File Management** -> **Configuration File Copy**. Select radio buttons as shown below, click **Apply**. This will save current configuration and will apply this configuration every time switch is powered up.

File Edit <u>V</u> iew History Bookm	arks <u>T</u> ools <u>H</u> elp						<u>- 0 ×</u>
LGS552P 52-Port Gigabit PoE+ Ma	. × +						
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LINKSYS	GS552P 52-Port G	igabit PoE+ Managed Switch	1			Version: 1	
					Fillimate	version.	. 1.0.27
System Status	Quick Start	Configuration	Maintenance		s	upport	
System Mode & Reboot	Configuration	File Copy					
<ul> <li>File Management</li> </ul>	Source File:	<ul> <li>Running Configuration File</li> </ul>					
Firmware & Boot Code		<ul> <li>Startup Configuration File</li> </ul>					
Active Firmware Image Configuration & Log		Backup Configuration File					
Configuration & Log	Bastingting Film						
DHCP Auto Configuration	Destination File:	Running Configuration File					
Diagnostics		Startup Configuration File					
		<ul> <li>Backup Configuration File</li> </ul>					
	Apply	Cancel					
	мриу	Caller					
		© 2014 Belkin International, I	nc. and/or its subsidiaries and affiliate	29, including Link	ays, LLC.	All rights r	
•							Image: Image

17. Power down Linksys network switch and power it up back again.

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18. Log in to your Linksys network switch again and make sure that IGMP settings are intact:

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LINKSYS LG	S552P 52-Port Giga	bit PoE+ Managed Swite	h		Firmware	Version: 1	.1.0.27
System Status	Quick Start	Configuration	Maintenance		S	upport	
Feature Configuration	Feature Configur	ation					-
IGMP Snooping	Global						
MLD Snooping	Bridge Multicast Filter	ing: 🗸 Enable					
Multicast Router Ports	÷						
Forward All Unregistered Multicast	VLAN Settings						
IGMP/MLD IP Group Addresses	VLAN ID:	1 🗘					
MAC Group Address FDB	IPv6 Multicast Forwar	ding: 💿 By MAC Address					
IP Group Address FDB		<ul> <li>By IPv6 Group Address</li> </ul>	5				
▼ IP Interface		<ul> <li>By Source Specific IPv</li> </ul>	6 Group Address				
<ul> <li>IPv4</li> <li>IPv4 Interface</li> </ul>	IPv4 Multicast Forward	ding: 💿 By MAC Address					
ARP		<ul> <li>By IPv4 Group Address</li> </ul>	;				
IPv6     IP Network Operations	1	By Source Specific IPv	4 Group Address				
FIP Network Operations	1	© 2014 Belkin International	, Inc. and/or its subsidiaries and affi	iliates, including Li	nksys, LLC.	All rights re	served.
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	3552F	9 52-P	ort Gigat	oit PoE+	Managed S	witch		Fim	nware Version: 1
System Status	Q	iick Sta	rt	C	onfiguration		Maintenance		Support
Feature Configuration	IGM	P Sno	ooping						
IGMP Snooping	IG	MP Sno	oping: 🗹	Enable					
MLD Snooping									
Multicast Router Ports		Apply	C	ancel					
Forward All									
Unregistered Multicast	IGM		ping Table						
IGMP/MLD IP Group Addresses		VLAN ID	IGMP	Router IGMP	Auto Learn MRouter Ports	IGMP Querier Status	IGMP Querier Version	IGMP Querier IP Address	Immediate
MAC Group Address FDB		U	Snooping Status	Version	MROULER PORTS	Status	version	IP Address	Leave
IP Group Address FDB	0	1	Enabled	v2	Enabled	Enabled	v2	192.168.1.251	Enabled
P Interface									
IPv4									
IPv4 Interface									

- 19. At this point your Linksys network switch is set and ready to use.
- 20. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

#### Luxul AMS-4424P, SW-610-24P-R, SW-510-48P-F Network Setup Guide for KD-IP822, KD-IP922, KD-IP1022, KD-IP1080

#### **Important Notes:**

- When stacking verify that both switches have POE enabled. In some cases, the secondary switch may disable POE upon stacking.
- 1. Login to the switch:

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- a. Plug an Ethernet cable into any of the ports of the switch
- b. Plug the other end into the Ethernet port of your computer
- c. Power on the Switch
- check to see that the IP address of the computer is within this network Subnet : 192.168.0.xxx ("xxx" ranges 1~254). For example, 192.168.0.100

Internet Protocol Version 4 (TCP/IPv4)	Properties ? X
General	
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	
Obtain an IP address automatical	ly
O Use the following IP address:	
IP address:	192 . 168 . 0 . 100
Subnet mask:	255.255.0.0
Default gateway:	· · ·
Obtain DNS server address auton	natically
Ouse the following DNS server add	resses:
Preferred DNS server:	
Alternate DNS server:	· · ·
Validate settings upon exit	Advanced
	OK Cancel

2. Open the Web browser, and enter **192.168.0.4 (default IP address** of Luxul AMS-4424P). The login window appears as below:

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← → C ☆ ③ 192	.168.0.4	☆	6	٢	<i>J.</i>	
	Authentication required         http://192.168.0.4         Your connection to this site is not private         Username       admin         Password       *****         Log in       Cancel					

- 3. Enter the user name and password. (default user name and password are both set as **"admin"**), then click "OK" to login to the switch configuration window.
- Ensure all ports have Maximum Frame Size of 10056 entered as below. To check it, find Configuration → Ports → Ports in the menu on left side of the window. (KD-IP922 requires Jumbo Frame(8K) for video/audio transmission via 1G-BaseT).

Quick Setup   Green Ethernet				Speed	Adv I	Duplex	Ac	lv spee	d	F	low Contr	ol		Excessive
Ports	Port	Link	Current	Configured	Fdx	Hdx	10M	100M	1G	Enable	Curr Rx	Curr T	Maximum Frame Size	Collision Mode
Ports Port Description	*			<ul> <li>T</li> </ul>									10056	
DHCP •	1	~	1Gfdx	Auto 🔻							×	×	10056	Discard
Security •		· ·	. oran				-		-					Diodard
Aggregation •	2	$\checkmark$	1Gfdx	Auto 🔻	1	1	1	1	1		×	X	10056	Discard
.oop Protection	3	<b>V</b>	1Gfdx	Auto 🔻	4						X	X	10056	Discard
PMC Profile	5	•	TOIUX								~		10030	Discard
/IVR	4	$\checkmark$	1Gfdx	Auto 🔻	1	1	1		1		×	X	10056	Discard
PMC •														
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MAC Table	6	<b>V</b>	1Gfdx	Auto 🔻	<b>v</b>						×	X	10056	Discard
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20S •	7	$\checkmark$	1Gfdx	Auto 🔻	1	1	1		1		×	×	10056	Discard
Airrorina		<b>V</b>									X	X		

5. To enable IGMP Snooping of the switch, Find Configuration → IPMC → IGMP Snooping → Basic Configuration in the menu on left side of the window. (KD-IP922 requires IGMP Snooping for multicasting video/audio transmission via 1G-BaseT), then check the box of Snooping Enabled of Global Configuration in

IGMP Snooping Configuration window. And **check the Fast Leave box for all Ports** related Configuration in the same window as below.

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Switch 3  Refresh Configuration	, IGI	MP Sno	ooping	Config	uratio	on	
Quick Setup Green Ethernet	Stac	k Global Se	ttinas				
Ports							
DHCP				Global Configu	ration		Enclosed
Security		ping Enabled				<b>~</b>	Enabled
Aggregation							
Loop Protection	Unreg	gistered IPMCv4	Flooding Enab	led			Make sure
IPMC Profile	IGMP	SSM Range		232.0.0.0		/ 8	unchecked
MVR	Loov	e Proxy Enabled					uncheckeu
IPMC	Leave	e Proxy Enabled					
IGMP Snooping	<ul> <li>Proxy</li> </ul>	Enabled					
Basic Configuration							
Basic Configuration VLAN Configuration	Bo	rt Pola	ted Co	nfigurat	tion f		witch 3
	Po	rt Rela	ted Co	nfigurat	tion f	or S	witch 3
VLAN Configuration	, Po			nfigurat	tion f	or S	witch 3
VLAN Configuration Port Filtering Profile		rt Rela		nfigurat		or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LLDP	•		Fast Leave			or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LLDP MAC Table Voice VLAN	Port   *	Router Port	Fast Leave ✔	Throttlin	g	or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LDP MAC Table /oice VLAN	► ► Port	Router Port	Fast Leave	Throttlin	g	or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LDP MAC Table Voice VLAN 20S	► Port  * 1	Router Port	Fast Leave	Throttlin (<> (unlimited	lg	or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LLDP WAC Table Voice VLAN QoS Mirroring JPnP	<ul> <li>▶</li> <li>Port</li> <li>*</li> <li>1</li> <li>2</li> </ul>	Router Port	Fast Leave	Throttlin <> unlimited unlimited		or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LLDP MAC Table Voice VLAN QoS Mirroring UPnP GVRP	► Port  * 1	Router Port	Fast Leave	Throttlin <> unlimited		or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LLDP MAC Table Voice VLAN QoS Mirroring UPnP GVRP Stack	<ul> <li>▶</li> <li>Port</li> <li>*</li> <li>1</li> <li>2</li> </ul>	Router Port	Fast Leave	Throttlin <> unlimited unlimited	lg T	or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LLDP MAC Table Voice VLAN QoS Mirroring UPnP GVRP Stack sFlow	<ul> <li>Port</li> <li>*</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> </ul>	Router Port	Fast Leave	Throttlin <> (unlimited (unlimited (unlimited) (unlimited)	Ig T T T	or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping LLDP MAC Table Voice VLAN QoS Mirroring UPnP GVRP Stack sFlow UDLD	<ul> <li>Port</li> <li>*</li> <li>1</li> <li>2</li> <li>3</li> </ul>	Router Port	Fast Leave	Throttlin <> (unlimited (unlimited (unlimited)	Ig T T T	or S	witch 3
VLAN Configuration Port Filtering Profile MLD Snooping	<ul> <li>Port</li> <li>*</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> </ul>	Router Port	Fast Leave	Throttlin <> (unlimited (unlimited (unlimited) (unlimited)	Ig T T T T	or S	witch 3

6. Click "Save" button on the bottom of IGMP Snooping Configuration window

MVR		22		<b>a</b>	unlimited	•
IPMC	•					
IGMP Snooping	•	23		<b>s</b>	unlimited	<b></b>
Basic Configuration		24		<b>v</b>	unlimited	•
VLAN Configuration					Guines	
Port Filtering Profile		Save	Reset			
MLD Snooping	F	[ouro]	Reser			

7. To add VLAN of the IGMP Snooping at the switch, Find Configuration → IPMC → IGMP Snooping → VLAN Configuration in the menu on left side of the window. (VLAN must be added in IGMP Snooping), then click "Add New IGMP VLAN" if there is not any specified VLAN in IGMP Snooping VLAN Configuration window.



Switch 3  Refresh Configuration	Ť	IGM	P Sno	ooping VL	AN Confi	iguration	
Quick Setup	•	Ctart from	NVLAN 1		with 20	ontrion	201 2020
Green Ethernet	•	Start ITON	I VLAN I		wiut 20	entries	per page.
Ports	•	Delete	VLAN ID	Snooping Enabled	Querier Election	Querier Address	Compatibility
DHCP	•	Delete	VEANID	Shooping Enabled	Querier Election	Querier Address	compatibility
Security	•	Add Nou	IGMP VLA				
Aggregation	•	Add Hen					
Loop Protection		Save R	leset				
IPMC Profile	•						
MVR							
IPMC	•						
IGMP Snooping	•						
Basic Configuration							
VLAN Configuration							
Port Filtering Profile							
MI D Occasion							

8. Then enter "1" in VLAN ID, check the box of Snooping Enabled and Querier Election in new VLAN. And select "Forced IGMPv2 in the list box of Compatibility in IGMP Snooping VLAN Configuration window. Then click "Save" button on the bottom of IGMP Snooping VLAN Configuration window.

Switch 3  Refresh Configuration	•	IGMP Snooping VLAN Configuration									
Quick Setup Green Ethernet		Start from V	/LAN 1	wi	entries per pag	er page.					
Ports DHCP	•	Delete	VLAN ID	Snooping Enabled	Querier Election	Querier Address	Compatibility				
Security	•	Cancel	1			0.0.0.0	Forced IGMPv2	0			
Aggregation	•		,								
Loop Protection		Add New IC	MP VLAN								
IPMC Profile	•		_								
MVR		Save Res	et								
IPMC	•										
IGMP Snooping	•										
Basic Configuration											
VLAN Configuration											
Port Filtering Profile											
MLD Snooping	•										

9. (optional). If using stacked Switches, verify that POE+ is enabled. This setting can be accessed from Configuration → Quick Setup → POE→ Configuration

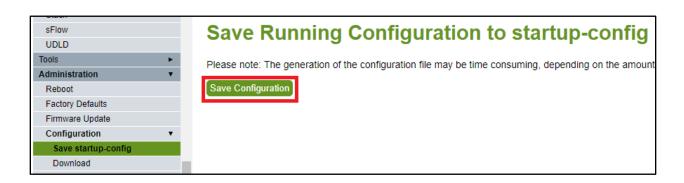
Configuration	•	PO/	wer Over E	inernet Cor	ntiguratio	n
Quick Setup	•					
System	•	Resen	ed Power determined by	Class	Allocation	LLDP-ME
PoE	•	Power	Management Mode	Actual Consumption	Reserved Power	
Configuration			•			
Scheduling		Capac	itor Detection	Oisabled	Enabled	
Auto Check						
VLANs		Maxir	num Available PoE	Power is 250W		
Private VLANs	•	PoE F	Port Configuration	for Switch 1		
VCL	•					
Spanning Tree	•	Port	PoE Mode	Priority	Maximum Pov	ver [W]
Green Ethernet	•	*	< ▼		▼ 15.4	
Ports	F		• • • • • • • • • • • • • • • • • • •	J 🗠	15.4	
DHCP	•	1	PoE+	Low	▼ 15.4	
Security	F	-				
Aggregation	•	2	PoE+	Low	▼ 15.4	
Loop Protection			C			

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10. (optional) if aggregating 10G connections, navigate to **Configuration→Aggregation → Groups** Use static mode for aggregated 10G connections.

Quick Setup	•	Aggre	ega	atio	on	GI	ou	p (	0	nti	gu	Ira	[]0]	n																			
System	•		-					÷.,			-																						
PoE	+														Po	ort Me	embe	rs													Group	Configuration	
VLANs	•	Group ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Mode	Boyortiyo	Max Bundle
Spanning Tree	•	Group ID	1	2	ి	4	9	۰	'	•	9	10	т	12	19	14	15	16	17	18	19	20	21	22	25	24	25	26	27	28	Mode	Revenuve	Wax Bundi
Group Manager		Normal	0	0			0		0	0	0	0	$\bigcirc$	0	$\bigcirc$	$\bigcirc$	$\bigcirc$		0		0	0	0	0			0	0	$\odot$	0			
Green Ethernet	•	4	~	~	0	~	~	~	~	~	~	~	0	0	0	~	~	_	_	~	~	~	~	~	~	~			~	~	Static		28
Thermal Protection		<u> </u>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	Static		20
Ports		2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Disabled	•	28
DHCPv4	•		-	-	-	-	-	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
DHCPv6	•	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Disabled	•	28
Security	•	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$\sim$	0	Disabled	•	28
Aggregation	T	-	0	0	9	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	Disabled		20
Common		5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Disabled	•	28
Groups		6	0	0	0	0	0	~	0	_	~	0	0	0	0	0	0	0	0	0	0	0	_	0	0	_	_	_	~	~	Disabled	•	28
LACP		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Disabled		20

11. To save all Running Configurations to Startup-Configuration, Find Administration → Configuration → Save startup-config in the menu on left side of the window. Then click "Save Configuration" button in Save Running Configuration to startup-config window.



12. To reboot the switch, Find Administration  $\rightarrow$  Reboot in the menu on left side of the window. Then click "Yes" button in Reboot Device window. The switch will be rebooted automatically.

Key digital',

sFlow UDLD		Reboot Device
Tools	۲	
Administration	•	
Reboot		Are you sure you want to perform a Reboot?
Factory Defaults		
Firmware Update		
Configuration	•	Yes No
Save startup-config		

#### Netgear AV line: MS250-10G2XF-POE+, M4250-26G4XF-PoE+, M4250-40G8XF-PoE+

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This series is compatible with IP1080, IP822, IP922, and IP1022 with no additional configuration required. However, it is recommended to change the default profile to the **"video"** profile (default is **"data"**) type for enhanced system performance.

If not connected to a DHCP server, the switch can be accessed via its IP address: 169.254.100.100 Alternatively, the OOB port can be accessed via 192.168.0.239

	Internet Protocol V	/ersion 4 (TCP/IPv4)	Properties	? ×	
	General				
	this capability. C for the appropria	ettings assigned auton Otherwise, you need to ate IP settings. IP address automatical lowing IP address:	ask your network ad	rk supports ministrator	
	IP address:		192.168.0.	100	
	Subnet mask:		255.255.0.	0	
	Default gatev	vay:		1	
	Configure   Network Profiles				
🔞 Configure 🔷 🤇					
Overview	M4250-40G8XF-PoE-	÷			Show Les
Network Profiles		عراجر احرا			
Link Aggregation		3 5 7			
Multicast	2	4 6 8	10 12	14 16 18 20	0 22 24
Neighbor	25	27 29 31	33 35	37 39 41 <u>S</u> 44	3 SS 45 SS 47 SS
Power over Ethernet	26	28 30 32	34 36	38 40 42 <u>5</u> 44	46 <sub>S</sub> 48 <sub>S</sub>
Port configuration				Auto-Trunk	
Security				PTP residency time st	tamping
Maintenance					
AVB License					
🖏 Diagnostics 🗸 🗸					
/ -ugilolio	Configured Profiles				
	Profile Name	Profile type	VLAN ID	IP Address	# of Assigned Ports
	Default	Video	1	192.168.1.251	48

# Key digital

## **Configured Profiles**

Profile Name	Profile type	VLAN ID	IP Address	# of Assigned Ports	
Default	Video	1	192.168.1.251	48	(:)

### Profile Settings

Configure your profile settings and preferences.

Profile Name Default	Profile Ten Video	nplate
VLAN ID	Color #00000	00
Edit VLAN Routing / DHCP Server		
VLAN IP Settings	VLAN IP A	ddress
Static	✓ 192.168.1.2	251
Subnet Mask		
255.255.0.0		
DHCP Server		
Off	~	
Can	el Apply	
	r the second sec	

For ease of maintenance, it is recommended to adjust the management IP address of the switch to a static IP address that shares the same subnet as the system.

### **Device Details**

Product Name M4250

Key digital',

Country/Region N/A

AV UI Version 1.0.8.17

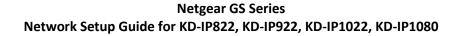
Management IP Address

Serial Number 6VK2295AA036A

Base MAC Address 94:18:65:6F:86:1C

Boot Version 1.0.0.7

STP Network Redundancy Neutral mode (default) 2



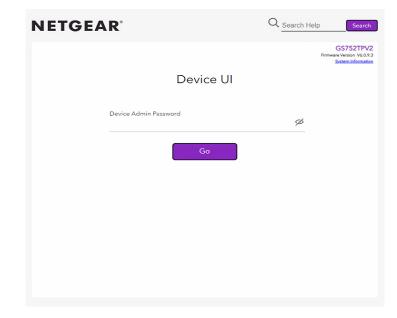
#### Login to the switch with the following steps:

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- 1. Plug an Ethernet cable into any of the ports of the switch
- 2. Plug the other end into the Ethernet port of your computer
- 3. Power on the Switch
- 4. Check to see that the IP address of the computer is within this network, 192.168.0.xxx ("xxx" ranges 1~254). For example, 192.168.0.100

Internet Protocol Version 4 (TCP/IPv4)	Properties ? X
General	
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	
Obtain an IP address automaticall	ly
O Use the following IP address:	
IP address:	192 . 168 . 0 . 100
Subnet mask:	255.255.0.0
Default gateway:	· · · ]
Obtain DNS server address autom	natically
Ouse the following DNS server add	resses:
Preferred DNS server:	
Alternate DNS server:	•••
Validate settings upon exit	Advanced
	OK Cancel

5. Open the Web browser, and enter 192.168.0.239 (default IP address of Netgear GS). The login window appears as below:



- 6. Enter the password (default password is "password"). And then click 'OK" to login to the switch configuration window
- 7. To enable Jumbo Frame of the switch, go to Switching -> Ports -> Port Configuration. (IP922 requires Jumbo Frame(8K) for video/audio transmission via 1G-BaseT). Select the empty checkbox that is above the checkbox beside g1 Port in the table to select all the ports. All selected ports highlight to yellow color. Then enter "9216" in Maximum Frame Size field as shown below and press Apply button

1 LAG A	.11											Go To Interfa	ice	Go
Port	Description	Port Type	Admin Mode	Autonegotiation	Speed	Duplex Mode	Physical Status	Link Status	Link Trap	Frame Size (1522 to 10000)	Flow Control	MAC Address	PortList Bit Offset	ifindex
			~	~					· •		· ·			
🗌 g1			Enable	Enable	Auto	Auto	1000 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	1	1
□ g2			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	2	2
🗆 g3			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	3	3
🗆 g4			Enable	Enable	Auto	Auto	1000 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	4	4
□ g5			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	5	5
g6			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	6	6
g7			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	7	7
3g			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	8	8
_ g9			Enable	Enable	Auto	Auto	100 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	9	9
g10			Enable	Enable	Auto	Auto	100 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	10	10
g11			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	11	11
□ g12			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	12	12
🗆 g13			Enable	Enable	Auto	Auto	1000 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	13	13
🗆 g14			Enable	Enable	Auto	Auto	1000 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	14	14
□ g15			Enable	Enable	Auto	Auto	1000 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	15	15
g16			Enable	Enable	Auto	Auto	1000 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	16	16
g17			Enable	Enable	Auto	Auto	1000 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	17	17
g18			Enable	Enable	Auto	Auto	1000 Mbps Full Duplex	Link Up	Enable	9999	Disable	94:18:65:39:14:52	18	18
g19			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	19	19
g20			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	20	20
g21			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	21	21
□ g22			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	22	22
□ g23			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	23	23
g24			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	24	24
□ g25			Enable	Enable	Auto	Auto		Link Down	Enable	9999	Disable	94:18:65:39:14:52	25	25
														~~

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 To enable IGMP Snooping of the switch, go to Switching -> Multicast -> IGMP Snooping -> IGMP Snooping Configuration. (IP922 requires IGMP Snooping for multicasting video/audio transmission via 1G-BaseT), Enable IGMP settings as shown below and press Apply button

Key digital'

System	Switching	Routing	QoS	Security	Monitoring	Maintenance	Help	Index
Ports LAG	VLAN A	uto-VoIP STP	Multicast MV	/R Address Ta	ble L2 Loop Prot	ection		
Multic	ast	IGMP Snooping	Configuration					
MFDB Auto-Video IGMP Snoopin		Validate IGMP	Service and the service of the servi	○ Disable ( ○ Disable (	See and			
IGMP Snoop Configuration	ping n	IGMP Statistics						
IGMP Snooping Interface Configuration     IGMP Snooping Table     IGMP Snooping VLAN Configuration     Multicast Router			rol Frame Count bled for IGMP S	nooping	29610 g1 - g52			
Configuration     Multicast Ro     Configuration	uter VLAN	1						
IGMP Snoopin	g Querier 🗸							
MLD Snooping				ooping Querier				

 Go to Switching -> Multicast -> IGMP Snooping -> IGMP Snooping Interface Configuration. Select the empty checkbox that is above the checkbox beside g1 Port in the table to select all the ports. All selected ports highlight to yellow color. Enable Admin Mode and Fast Leave Admin Mode as shown below and press Apply button

System Switch	ning		Routing	QoS	Security	Monitoring	Main	itenance
Ports LAG VLAN	Aut	o-Vol	P STP	Multicast N	IVR Address	Table L2 Loop	Protection	
Multicast		IGM	<sup>o</sup> Snooping	Interface Conf	iguration			
MFDB	~	1 L	AG All			Go To Interfac	ce	Go
Auto-Video IGMP Snooping	* ~		Interface	Admin Mode	Host Timeout	Max Response Time	MRouter Timeout	Fast Leave Mode
<ul> <li>IGMP Snooping Configuration</li> </ul>				*		1	1	
IGMP Snooping     Interface Configuration			g1 g2	Enable Enable	260 260	10 10	0	Enable Enable
IGMP Snooping Table     IGMP Snooping VLAN     Configuration			g3 g4 g5	Enable Enable Enable	260 260 260	10 10 10	0	Enable Enable Enable
Multicast Router Configuration			g6 g7	Enable Enable	260 260	10 10	0	Enable Enable
<ul> <li>Multicast Router VLAN Configuration</li> </ul>			g8 g9	Enable Enable	260 260	10 10	0	Enable Enable
IGMP Snooping Querier	~		g10 g11	Enable	260 260	10	0	Enable
MLD Snooping	×		g12	Enable	260	10	0	Enable
			g13 g14	Enable Enable	260 260	10 10	0	Enable Enable
			a15	Enable	260	10	0	Enable

 Go to Switching -> Multicast -> IGMP Snooping -> IGMP Snooping VLAN Configuration. Add VLAN ID=1, Fast Leave Admin Mode=Enable and Query Mode=Enable as shown below and press Add button. (Note: the empty fields are populated automatically to default values)

System Switching		Routing	QoS	Security	Monitoring	Maintenance	Help	Index		
Ports LAG VLAN Au	to-VoIP	STP	Multicast MVR	Address T	able L2 Loop	Protection				
Multicast	IGMP	Snooping	VLAN Configuration	on						
•MFDB ~		VLAN ID	Admin Mode	Fast Leave	Host Timeout	Maximum Response	MRouter Timeout	Report Suppression	Query Mode	Query Interval
• Auto-Video ~		VERNIE	Admin Mode	Mode	most mileout	Time	Mixodier nineodi	Mode	Query mode	(1 to 1800) secs
IGMP Snooping			~	~				~	~	
<ul> <li>IGMP Snooping</li> </ul>	0	1 4088	Disable	Disable Disable	260 260	10	0	Disable Disable	Disable	60 60
Configuration	-	4088	Disable	Disable	260	10	0	Disable	Disable	60
<ul> <li>IGMP Snooping Interface Configuration</li> </ul>										
IGMP Snooping Table										
IGMP Snooping VLAN     Configuration										
<ul> <li>Multicast Router Configuration</li> </ul>										
<ul> <li>Multicast Router VLAN Configuration</li> </ul>										
IGMP Snooping Querier 🗸										
• MLD Snooping ~										

11. Go to Switching -> Multicast > IGMP Snooping Querier -> Querier Configuration. Enable Querier Admin Mode as shown below and press Apply button

#### NETGEAR'

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NETGEAR 48-Port Gigabit PoE+ Smart Managed Pro Switch with 4 SFP Ports (GS752TPv2)

System	Switc	hing	Routing	QoS	\$	Security	Monitoring	Maintenance	Help	Index	
Ports LAG	VLAN	Auto-Volf	P STP	Multicast	MVR	Address Tal	ble L2 Loop P	rotection			
Mutic MFDB Auto-Video IGMP Snoopir IGMP Snoopir Querier VLA Configuratio Querier VLA MLD Snooping	ast ng Querier <mark>figuration</mark> N n N Status	Quer     Que     Sno     IGN     Que	ier Configu erier Admir ooping Que 1P Version ery Interval	n Mode erier Address	5		ole	] (1 to 2) ] (1 to 1800) ] (60 to 300)			
12 Einal								ov for dovico r			

12. Finally, go to Maintenance -> Device Reboot. Enable checkbox for device reboot as shown below and press Apply button. It takes approximately 2 minutes to power cycle the switch and an additional 2 min for IP922 to start showing video.

#### NETGEAR<sup>.</sup>

NETGEAR 48-	Port Gigabit	PoE+ Smart Man	aged Pro S	witch with 4 S	FP Ports (GS752	2TPv2)		
System	Switching	Routing	QoS Security I		Monitoring	Maintenance	Help	Index
Reset Expor	t Update	File Management	Troubleshooting					
Rese	t	Device Reboot						
<ul> <li>Device Reboot</li> </ul>		Select this check	box and click	the Apply buttor	to reboot.			
Default Setting	5							



#### Niveo NGSME24TH-AV Network Setup Guide for KD-IP822, KD-IP922, KD-IP1022, KD-IP1080

 Set up the computer to connect to the switch. The best method is to set a static IP address for the computer's ethernet adapter and directly wire into the switch. The Default IP address of this switch is 192.168.2.1

nternet Protocol Version 4 (TCP/IPv4)	Properties	×
General		
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.		
Obtain an IP address automatical	ly	
• Use the following IP address:		
IP address:	192 . 168 . 2 . 254	
Subnet mask:	255 . 255 . 255 . 0	
Default gateway:	192.168.0.172	
Obtain DNS server address autor	natically	
• Use the following DNS server add	lresses:	
Preferred DNS server:	192.168.0.24	
Alternate DNS server:		
Validate settings upon exit	Advanced	
	OK Cancel	

- 2. Once wired in, connect to the network switch via web browser. When prompted, log in with the default credentials.
  - a. The username and password are both "admin".

Sign in	
http://192.16	8.2.1
Your connect	tion to this site is not private
Username	admin
Password	
	Sign in Cancel

- 3. After connecting to the switch, it is recommended to reset it to factory defaults.
  - a. The path for this is **Maintenance** -> **Factory Defaults**.

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b. Note that resetting the switch to Factory Defaults does not change the IP settings of the switch.

	^	Factory Defaults	
PoE     MAC Table			Are you sure you want to reset the configuration to
<ul> <li>VLANs</li> <li>Private VLANs</li> <li>VCL</li> </ul>			Factory Defaults?
► Voice VLAN ► QoS		Yes No	
<ul> <li>Mirroring</li> <li>UPnP</li> <li>sFlow</li> </ul>	L		
✓ Monitor			
► System			
▶ Ports			
Security			
► LACP			
Loop Protection			
Spanning Tree			
► MVR			
► IPMC			
► LLDP			
• PoE			
MAC Table			
► VLANs ► VCL			
• sFlow			
► Diagnostics			
<ul> <li>Maintenance</li> </ul>			
<ul> <li>Restart Device</li> </ul>			
<ul> <li>Factory Defaults</li> </ul>			
Software			
Configuration	Υ.		

- 4. After setting factory defaults, adjust the switch to use the desired subnet. In our case we use the IP address **192.168.1.251** as this fits the default subnet of the KD-IP922 system. Ensure the DHCP client is disabled as well. Set the Router IR address to that of the router in the network.
  - a. The path is: Configuration -> System -> IP

Key digital".

b. After making the adjustment, the switch will automatically move to the new IP address. The computer may lose connection to the switch at this time. Adjusting the static IP to be in the new subnet will allow for connection to be reestablished on the new IP address.

▼ Configuration ▼ System	IP Configura	tion	
<ul> <li>Information</li> <li>IP</li> </ul>		Configured	Current
■ IPv6	DHCP Client		Renew
<ul> <li>NTP</li> <li>Time</li> </ul>	IP Address	192.168.1.251	192.168.2.1
Log	IP Mask	255.255.255.0	255.255.255.0
<ul> <li>Power Reduction</li> <li>Ports</li> </ul>	IP Router	192.168.1.1	0.0.0
► Security	VLAN ID	1	1
Aggregation	DNS Server	0.0.0.0	0.0.0.0
<ul> <li>Loop Protection</li> <li>Spanning Tree</li> <li>MVR</li> <li>IPMC</li> <li>LLDP</li> <li>PoE</li> <li>MAC Table</li> </ul>	IP DNS Prox DNS Proxy Save Reset	y Configuration	

- 5. By default, Jumbo frames are enabled on this network switch. Verify that the maximum frame size is 9600 (the maximum value)
  - a. The path is: **Configuration** -> **Ports**

<ul> <li>Configuration</li> <li>▶ System</li> </ul>	Â.	Port C	Config	uration						_		
Power Reduction	n	Deut	Links		Speed		Flow Control			Excessive	Power	
<ul> <li>Ports</li> <li>Security</li> </ul>	-11	Port	Link	Current	Configured	Current Rx	Current Tx	Configured	Frame Size	Collision Mode	Control	
<ul> <li>Aggregation</li> </ul>		*							9600	<> ▼	<	
<ul> <li>Loop Protection</li> </ul>		1		1Gfdx	Auto 🔻	×	×		9600	Discard 🔻	Disabled •	
<ul> <li>Spanning Tree</li> <li>MVR</li> </ul>		2	Ŏ	1Gfdx	Auto 🔻	×	x		9600	Discard <b>v</b>	Disabled •	
► IPMC		3		1Gfdx	Auto 🔻	×	×		9600	Discard <b>▼</b>	Disabled •	
► LLDP		4		1Gfdx	Auto 🔻	×	×		9600	Discard 🔻	Disabled •	
<ul> <li>PoE</li> <li>MAC Table</li> </ul>		5		1Gfdx	Auto 🔻	×	×		9600	Discard ▼	Disabled •	

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6. Enable IGMP Snooping. Check "Snooping Enabled" and verify that "Fast Leave" is also enabled. Uncheck "Unregister IPMCv4 Flooding enabled"

a. The path is: Configuration -> IPMC -> IGMP -> Basic Configuration

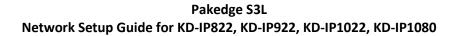
Key digital',

Configuration     System	IGMP	Snooping Co	onfiguration	_	
<ul> <li>Power Reduction</li> <li>Ports</li> </ul>			Global Corf	iguration	
<ul> <li>Ports</li> <li>Security</li> </ul>	Snoopi	ng Enabled			
► Aggregation	Unregis	stered IPMCv4 F	looding Enabled		
<ul> <li>Loop Protection</li> </ul>	IGMP S	SM Range		232.0 0.0	/ 8
Spanning Tree	Leave F	Proxy Enabled			
■ MVR ▼ IPMC		Enabled			
✓ IGMP Snooping ■ Basic	Port R	elated Confi	guration		
Configuration VLAN	Port	Router Port	Fast Leave	Throttling	]
Configuration	*		<b>S</b>	<> ▼	
<ul> <li>Port Group Filtering</li> </ul>	1		<b>√</b>	unlimited <b>v</b>	
► MLD Snooping	2		1	unlimited •	
► LLDP	3		<b>s</b>	unlimited <b>•</b>	
<ul> <li>PoE</li> <li>MAC Table</li> </ul>	4			unlimited •	
► VLANs	5		1	unlimited <	
Private VLANs	6		<b>I</b>	unlimited •	
<ul><li>VCL</li><li>Voice VLAN</li></ul>	7		Image: A start of the start	unlimited <b>v</b>	

- 7. Create an IGMP VLAN. The ID should be set to 1. Force IGMPV2 compatibility for this VLAN. Ensure the configuration is as below:
  - a. The path is: Configuration -> IPMC -> IGMP -> VLAN Configuration

Configuration     System     Power Reduction     Ports	IGMP Sn Start from		AN Configuration	s per page.		_				
<ul> <li>Security</li> <li>Aggregation</li> </ul>	Delete	VLAN ID	Snooping Enabled	IGMP Querier	Compatibility	RV	QI (sec)	QRI (0.1 sec)	LLQI (0.1 sec)	URI (sec)
<ul> <li>Loop Protection</li> </ul>		1	<b>v</b>	4	Forced IGMPv2 V	2	125	100	10	1
Spanning Tree										
■ MVR ▼ IPMC	Add New	IGMP VLAN								
IGMP Snooping	Save R	leset								
<ul> <li>Basic Configuration</li> </ul>	Save	teset								
■ VLAN										
Configuration Port Group Filtering										

- 8. Reboot the network switch and verify that the settings are correct. The switch is now ready for the KD-IP922 system.
  - a. There is no need to save the running configuration of this network switch. The settings will persist on system reboot.



#### Login to the switch with the following steps:

Key digibal'

- 1. Plug an Ethernet cable into any of the ports of the switch
- 2. Plug the other end into the Ethernet port of your computer
- 3. Power on the Switch
- 4. Check to see that the IP address of the computer is within this network, 192.168.1.xxx ("xxx" ranges 1~254). For example, 192.168.1.154

Internet Protocol Version 4 (TCP/IPv4	) Properties	×
General		
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.		
Obtain an IP address automatica	ly	
• Use the following IP address:		
IP address:	192.168.1.154	
Subnet mask:	255 . 255 . 255 . 0	
Default gateway:		
Obtain DNS server address autor	natically	
• Use the following DNS server add	lresses:	
Preferred DNS server:		
Alternate DNS server:		
Validate settings upon exit	Advanced	
	OK Cancel	

5. Open the Web browser, and enter 192.168.1.205 (default IP address of Pakedge S3L). Then the login window appears as below.

Key digital',

	Welcome		×	+	 						_			×
¢	$\rightarrow$ C <sup>i</sup>	企	③ 192.168.1.3	205/www/login.html						◙ ☆	lii\	٩	D	≡
J		_		, , , ,						- 11				
					рак	kedg	e 🔊							
					User ID									
					Password									
						in								
						Login								
					Copyright (c) 201	17 Pakedge Devi	ce & Software, In	nc.						
						All rights reserve								

6. Enter the User ID (default user id is "pakedge") and password (default password is "pakedges"). And then click 'OK" to login to the switch configuration window. Make sure to set appropriate IP address and netmask to make the switch to be in same network as the Key Digital Devices you are going to be using.

S3L-24P	×	+							-		$\times$
← → ♂ ☆	i) 192.168.1.	205/www/main.html						… ♥ ☆	111	•	≡
▶ S3L-24P			DASHBOARD	MAINTENANCE	ADMINISTRATION	CONFIGURE	MONITOR	DIAGNOSTICS	USER INFO	LOGOUT	^ T
Welcome to Smart Wizar	d										
The wizard will guide you	to do basic conf	figurations on 3 steps for the IP I	nformation, Use	er Name setting, and	SNMP. If you are n	ot changing the	settings, click	on "Exit" to go b	ack to the m	ain page.	
		1		2		-3					
		The wizard will help to co IP address, Netmask, and		gs for							
		<ul> <li>Static</li> </ul>	: (	О рнср							
		IP Addre	ss 1	92.168.1.205							
		Netmask	. [	16 (255.255.0.0)	$\sim$						
		Gateway	1	92.168.1.99							
□ Ignore the wizard n	ext time	Exit	Back Nex								
		Copyrig	ht (c) 2017 Pake	edge Device & Softw	are, Inc. All rights res	erved.					

7. To enable Jumbo Frame of the switch, go to Administration -> Management -> Port. (IP922 requires Jumbo Frame(8K) for video/audio transmission via 1G-BaseT). Make sure under Port Settings, Port field is set to All. Then enter "9216" in Maximum Receive Frame Size field as shown below and press Apply button. After applying check that the settings are updated in the table below.

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53L-24P	× +																	/ X
← → ♂ ☆	④ 192.168	.1.205/www/main.html												•	… ◙ ☆	lif\	•	⊡≡
		S3L-24P																
						DASHBOAR	d mainten	ANCE ADN	INISTRATION	CONFIGURE	MONITOR	DIAGNOSTICS	USER INFO LO	GOUT				
		ADMINISTRATION Man	agement Port PORT	SETTINGS														
			Port Settings															
		Port Settings	Port	All		-												
		Port Status																
		Green-Ethernet	-															
		DDM Settings	State Auto-negotiation		bled O Disat					Speed		100M 🗹 1000	м					
			Flow Control	Disabl	ed	~				Duplex	🗹 Half 🗹	Full	Ap	ply				
			Maximum Receive Frame	Size 9216		÷							Ap	vlo				
			(1536~9216 bytes)															
			Description										Ap	ply				
								MAXIMUM						^				
			PORT	STATE	SPEED		CONTROL	RECEIVE FRAME SIZE	DESCRIPTION									
			eth1/1	Enabled	AUTO	AUTO	None	9216										
			eth1/2	Enabled	AUTO	AUTO	None	9216										
			eth1/3	Enabled	AUTO	AUTO	None	9216										
			eth1/4	Enabled		AUTO		9216										
			eth1/5	Enabled				9216										
			eth1/6	Enabled				9216										
			eth1/7	Enabled				9216										
			eth1/8	Enabled	AUTO	AUTO	None	9216						~				

8. To enable IGMP Snooping of the switch, go to Configure -> Application -> IGMP Snooping. (IP922 requires IGMP Snooping for multicasting video/audio transmission via 1G-BaseT), Enable IGMP settings as shown below and press Apply button. You should see a new entry in the table below.

Key digibal'

S3L-24P	× +			- 🗆 ×
← → ♂ ŵ	(i) 🎤 192.168.1.205/www/main.html		♥ ☆	III\ 😨 🗊 🗏
▶ S3L-24P		DASHBOARD MAINTENANCE ADMINISTRATION	CONFIGURE MONITOR DIAGNOSTICS USER	
CONFIGURE Application	n IGMP Snooping GLOBAL SETTING			
Global Setting Static Group Settings	Global Setting	Enabled     O Disabled		Apply
Group Information	VLAN ID (1-4094)	1 Status	Enabled     Disabled	
Mrouter		Enabled     Disabled     Report Suppression     Immediate Leave	n	
	Total Entries: 0		UPPRESS TIME IMMEDIATE LEAVE	Delete

9. Go to Configure -> Application -> IGMP. Enter the settings as shown in the picture below and press Apply button. You should see the updated settings in the entries table below.

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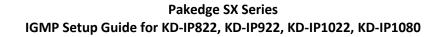
	S3L-24P		×	+							-		$\times$
¢	$\rightarrow$ C <sup>i</sup>	۵	i 🎤 192.16	8.1.205/www/main.ht	ml				•••	☑ ☆	lii\	۵	≡
	S3L-2	24P			DASHBOA	RD MAINTENANCE	ADMINISTRATION	CONFIGURE N	NONITOR DIAG	NOSTICS	USER INFO	LOGOUT	^
CON	IFIGURE	Applicati	on IGMP	IGMP SETTINGS									
IGN			IGMP Settin	-									
IGN	/IP SSM Set	tings	VLAN ID (1-	4094)	1								
IGN	/IP Group Ir	formation	Status			Enabled O Disabled		1					
ION	ne oroup n	Inormation	Access dro			Enabled   Disabled							
			Last Memb	er Query Interval (1000-	-25000 msec) 100	)							
			Query Inter	val (1-31744 sec)	125								
			Query Max	Response Time (1-25	sec) 10								
			Robustness	Variable (1-7)	2								
			Version		0	V1 • V2 · V3						Apply	
			version		0	0 12 0 13						Арріу	
			Total Entrie	5: 1									
			INTERFACE	ACCESS GROUP	VERSION	QUERY INTERVAL(SEC)	QUERY MAX RESPONSE TIME	LAST MEMBER QUERY INTERV	ROBUSTNE AL VARIABLE	SS			
			VLAN1		V2	125	10	1000	2		Detail		

	S3L-24P	•	×	+									-		×
¢	$\rightarrow$ C	* ŵ	i) 🎤 192.1	58.1.20	)5/www/m	ain.html						♥ ☆	II۱۸	<b>•</b>	≡
	S3L	-24P					DASHBOARD	MAINTENANCE	ADMINISTRATION	CONFIGURE	MONITOR	DIAGNOSTICS	USER INFO	LOGOU	т
MA	NTENAN	ICE SAVE													
S	ve														
P	ress the b	outton to sav	e the system set	tings to	NV-RAM.									Save	



- 10. Go to Maintenance -> Save. Click on Save button.
- 11. Go to Maintenance -> Reboot. Click on Reboot button. It takes approximately 30 seconds for the switch to reboot and an additional 30 sec for IP922 to start showing video.

S3L-24P × +							-		×
← → C û ① / 192.168.1.205/www/main.html						🛡 🕁	111\	<b>v</b> 🗉	≡
S3L-24P	DASHBOARD	MAINTENANCE	ADMINISTRATION	CONFIGURE	MONITOR	DIAGNOSTICS	USER INFO	LOGOU	T ^
MAINTENANCE REBOOT									
Reboot Save log message before reboot. O Yes    No									
Press the button to reboot the system.								Reboot	



1. Connect to the network switch

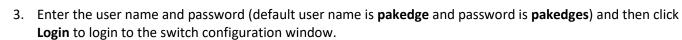
Key digital'

- a. Plug an Ethernet cable into any of the ports of the switch
- b. Plug the other end into the Ethernet port of your computer
- c. Power on the Switch
- d. Configure the PC with static IP address of 192.168.1.10 and the subnet mask of 255.255.255.0 to be within range of Pakedge's default settings (IP address 192.168.1.205 subnet mask 255.255.255.0). Default Getaway and DNS can be left blank

General	
You can get IP settings assigned aut this capability. Otherwise, you need for the appropriate IP settings.	
Obtain an IP address automatic	ally
Ouse the following IP address: —	
IP address:	192.168.1.10
Subnet mask:	255.255.255.0
Default gateway:	
Obtain DNS server address aut	omatically
Ouse the following DNS server as	ddresses:
Preferred DNS server:	
Alternate DNS server:	
Validate settings upon exit	Advanced.

2. Open a web browser, and enter 192.168.1.205 (default IP address of Pakedge) to enter the login window

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SX-8P pakedgedevice&.software inc pakedge	
Login	

4. Go to **System Settings** and change the Subnet Mask to 255.255.0.0. Press the **apply** button.

Management VLAN 1 IP Address 192.168.	.205
MAC Age 300 Subnet Mask 255.25	0.0
Login Timeout(min) 10 Gateway 192.168	.99

5. Go to **Port**  $\rightarrow$  **Port Settings**  $\rightarrow$  **MTU** and change MTY to 10,000 (max)

Systen	Ports	$\bigcirc$	VLAN		Management
Port Settings					
Common Configuration	Port Statistics Flow Contro	ol Broadcast Storm	Link Aggregat	ion Mirror MTU EEE	
		Port M	TU Setup		
	MTU	-	te (1518 - 10000, d	efault 9000)	
		Apply	Clear		

- 6. Go to **TRAFIC** → **IGMP** → **IGMP** Snooping and Enable **IGMP** Status, and **Report** Suppression. Press the Apply button.
- 7. Press the button with red pencil icon

Key digital',

	2		_	IGMP	Global Setup 3				
	ICN	IP Status En	able 🔻 V		IGMPv2 ▼ Re	most Suppression	Enable V		
	IGM	P Status En		ersion -	IGIVIPV2	port Suppression	Enable <b>T</b>		
				Apply	Clear				
				11.2					
VLAI	N Operational Status	Router Port Auto Learn	4 Query Robustness	Query Interval	Query Max Response Interval	Last Member Query Counter	Last Member Query Interval	Immediate Leave	4
ID									
VLA			Query		Response				

#### 8. Enable State and Immediate Leave

Key digital'

	Apply	Clear	
	IGMP \	/LAN Setup	_
VLAN ID	1	State -	Enable 🔻
Router Port Auto Learn	Enable 🔻	Immediate leave	Enable 🔻
Query Robustness	2	Query Interval	125
Query Max Response Interval	10		

9. Go to **TRAFIC**  $\rightarrow$  **IPMC**  $\rightarrow$  **IGMP Querier** and press the button with red pencil icon

P Snooping IGMP Que	rier iG	MP Statistic	s Multica	st Property	Multicas	t Group	Multicast Router Port	
	ID	VLAN ID	Status	Operation	al Status	Version	Querier Address	
	1	1	Enable	Enal	ble	IGMPv2	192.168.1.205	1

10. Enable State and choose IGMPv2 version. Click Apply button

) IGMP						
MP Snooping	IGMP Querier	IGMP Statistics	Multicast Proper	y Multicast Group	Multicast Router Port	
			Ec	it Querier Setup		
		VLAN ID	1 Sta	te Enable 🔻	Version IGMPv2 🔻	
		_	L			
			Apply	Clear	Back	

10. Go to **TRAFIC IPMC MULTICAST PORPERTY** and set Unknown Multicast Action to **Drop**. Press **Apply** 

Key digibal

Unknown Multicast Action	Drop	•
Multicast Fo	orward Method	
IPv4	DMAC-VID 🔻	
Apply	Clear	



#### Signamax SC30020 Network Setup Guide for KD-IP822, KD-IP922, KD-IP1022, KD-IP1080

 Connect your PC directly to the network switch. Your PC will need to be set to a static IP address that is within the subnet of the default IP address of the switch. This series of switches typically use 192.168.2.1 as their default IP address

Internet Protocol Version 4 (TCP/IPv4)	Properties ? X										
General											
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.											
Obtain an IP address automatically											
Ose the following IP address:											
IP address:	192.168.2.2										
Subnet mask:	255.255.0.0										
Default gateway:											
Obtain DNS server address autor	natically										
Ose the following DNS server add	resses:										
Preferred DNS server:											
Alternate DNS server:	• • •										
Validate settings upon exit	Advanced										
	OK Cancel										

2. Log into the switch via web browser using the IP address. There will be a prompt to enter credentials. By default, both username and password are set to "admin"

SIGNAMAX
Sername admin
Password
Login

3. Navigate to System -> Capability, and enable Jumbo Frames as depicted in the below image

Key digital',

	System > Capability		820
<ul> <li>Dashboard</li> <li>System</li> <li>General</li> <li>Switch</li> <li>Capability</li> <li>File</li> </ul>	General Capability Jumbo Frame Bridge Extension	Carabled	
• Time	Extended Multicast Filtering Services	No	
Console	Traffic Classes	Enabled	
<ul> <li>Telnet</li> <li>CPU Utilization <sup>■</sup></li> </ul>	Static Entry Individual Port	Yes	
CPU Guard	VLAN Version Number	2	
<ul> <li>Memory Status</li> <li>Reset</li> </ul>	VLAN Learning Local VLAN Capable	IVL No	
<ul> <li>Interface</li> <li>VLAN</li> </ul>	Configurable PVID Tagging Max Supported VLAN Numbers	No Yes 4094	
<ul> <li>MAC Address</li> <li>Spanning Tree</li> </ul>	Max Supported VLAN ID	4094	
<ul> <li>Traffic</li> <li>Security</li> <li>Administration</li> <li>Tools</li> <li>ID</li> </ul>		Apply Revert	

4. Navigate to Multicast -> IGMP Snooping -> General to access basic IGMP settings. On this page, enable IGMP snooping and Querier, as depicted in the below image.

<ul> <li>intenace</li> </ul>	manager term encoping econoral		
> VLAN > MAC Address	IGMP Snooping Status	<b> ⊘</b> Enabled	
<ul> <li>&gt; Spanning Tree</li> <li>&gt; Traffic</li> <li>&gt; Security</li> <li>&gt; Administration</li> <li>&gt; Tools</li> <li>&gt; IP</li> <li>&gt; IP Service</li> <li>&gt; Multicast</li> </ul>	Proxy Reporting Status TCN Flood TCN Query Solicit Router Alert Option Unregistered Data Flooding Version Exclusive	Enabled Enabled Enabled Enabled Enabled Enabled	
GGMP Snooping     General     Multicast Roul     IGMP Member     IdMP Member     Interface     Forwarding Er     Filter     Statistics     MLD Snooping     Routing Protocol     TTT     Filter     Go     C     Go	IGMP Unsolicited Report Interval (1-65535) Router Port Expire Time (1-65535) IGMP Snooping Version (1-3) Querier Status	400 seconds 300 seconds 2 V Enabled Apply Revert	

5. Navigate to Multicast -> IGMP Snooping -> Interface. From this page, use the dropdown to select "Configure VLAN". Set VLAN 1 up as depicted below.

Key digital

Intenace	พนแนะ		- ənooping	< men	ace								
> VLAN > MAC Address	Action	n: Show V	LAN Informatio	on 👻									
> Spanning Tree	IGMP		VLAN List T	otal: 1									
<ul> <li>Traffic</li> <li>Security</li> <li>Administration</li> <li>Tools</li> <li>IP</li> </ul>		IGMP Snooping Status	Immediate Leave Status	Query Interval	Query Response Interval	Last Member Query Interval	Last Member Query Count	Proxy (Query) Address	Proxy Reporting	Multicast Router Discovery	General Query Suppression	Version Exclusive	Interface Version
<ul> <li>IP Service</li> <li>✓ Multicast</li> <li>✓ IGMP Snooping General</li> </ul>	1	Enabled	Disabled	125	100	10	2	0.0.0.0	Using global status (Disabled)	Disabled	Disabled	Using global status (Disabled)	Using global version (2)
<ul> <li>General</li> <li>Multicast Roul</li> <li>IGMP Member</li> <li>Interface</li> <li>Forwarding Er</li> <li>Filter</li> <li>Statistics</li> <li>MLD Snooping</li> <li>Routing Protocol -</li> </ul>													
Action: Configure	VLAN	Ŧ		1 .	•								
IGMP Snooping Sta	atus			V E	nabled								
Version Exclusive				Usir	Using Global Status 👻								
Immediate Leave	Status			E	Enabled By-Group								
Multicast Router D	iscover	y		E	Enabled								
General Query Sup	pressi	on		E	nabled								
Proxy Reporting					Jsing Global Status 👻								
Interface Version					ng Global Ve								
Query Interval (2-3				125			econds						
Query Response Ir				100			1/10 secor						
Last Member Que	-	-	44)	10 2		(	1/10 secor	ias, muitip	le of 10)				
Last Member Quer Proxy (Query) Add		11 (1-200)		2	0.0								
Hoxy (Query) Add	1033			0.0.									
					A	pply	Revert	]					

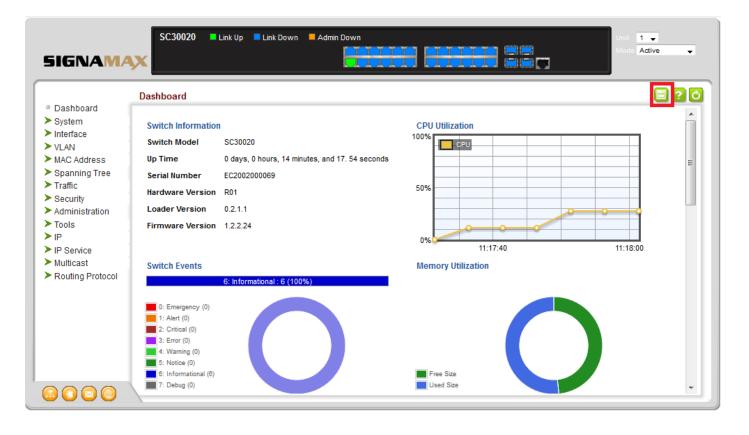
6. Navigate to IP -> General -> Routing Interface. From this page, use the dropdown to select "Add address". Add a new static, primary IP address for VLAN 1 from this screen. For best performance, use an IP in the same subnet as your system.

Key digital'

	IP > General > F	Routing Interface		E ? 0
Dashboard Swatare	Action: Show A	Address 👻		
<ul> <li>System</li> <li>Interface</li> </ul>	Action: Show A	address 👻		
> VLAN	VLAN	1 🗸		
MAC Address	IP Address Mod			
Spanning Tree	IP Address Mod	e User Specified		
> Traffic	Routing Interfac	e IP List Total: 1		
> Security		IP Address Type	IP Address	Subnet Mask
Administration		Primary	192.168.1.251	255.255.0.0
> Tools				
¥ IP			Delete Revert	
V General				
Routing Interface				
Routing				
<ul> <li>IPv6 Configuration</li> </ul>				
IP Service				
<ul> <li>Multicast</li> <li>Routing Protocol</li> </ul>				
Routing Flotocol				
<				
Action: Add Add	ress 🔻			
VLAN		1 👻		
IP Address Mode		User Specified 👻		
IP Address Type		Primary -		
IP Address		192.168.1.251		
Subnet Mask		255.255.0.0		
Restart DHCP	Click this button to	resend DHCP client request.		
		-		
		Apply	Revert	
		(		

7. To save all settings, click on the floppy disk button on the top right corner of the control panel, then reboot. After rebooting, the switch will be ready to manage an IP system

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#### IGMP Setup Guide: Titan Networx 1080p Systems (KD-IP1080, KD-IP120)

- 1. **IMPORTANT**: Disconnect all the DHCP devices like routers, servers from the Linksys network switch.
- 2. Locate a pinhole "RESET" button at the front panel left bottom corner of your Titan Networx network switch. Using a paper clip press and hold a reset button for more than 10 seconds and then release. Wait while the device is restarted and ready to use (about 5min).
- 3. **IMPORTANT**: At this point all the displays should be displaying distorted randomly flashing video images.
- 4. Connect your PC to the Titan Networx network switch directly using a network cable.

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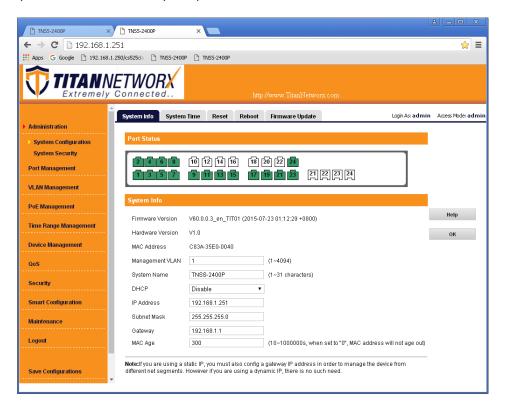
- If you have not done yet, configure your PC's IP address to the same range as the switch (default 192.168.1.xxx).
- Enter the switch's IP address in your browser and press ENTER (check the user manual for a default IP address – usually, it is: 192.168.1.30).
- 7. Enter user name and password (check the user manual for a default user name and password; it is usually "admin" for both). Then click Log In.

	<u> </u>
TN55-2400P × TN55-2400P ×	_
← → C 🗋 192.168.1.251 👷 :	≡
III Apps G Google 🗋 192.168.1.250/cs525da 🗋 TNSS-2400P	»
	_
TITANNETWORX TNSS-2400P	
User Name: admin	
Password:	
Login	

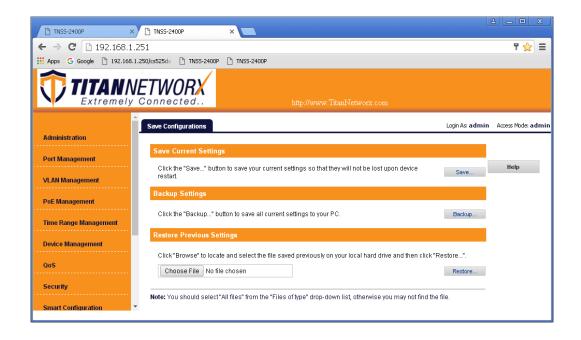
8. Navigate to Administration -> System Configuration. Select IP Address box. IP address can be changed by the administrator depending on the network configuration. If you are using multiple network switches it is recommended to set first one to 192.168.1.251, second to 192.168.1.252, and so on (we will change an IP address to 192.168.1.251). Set Subnet Mask to 255.255.255.0, set Gateway to 192.168.1.1 (in this case), make sure that Management VLAN is set to "1", DHCP is set to "Disable" and click OK. Page will refresh with the new IP address. If it is timed out than log in again using the new IP address.

9. Make sure your screen looks exactly like pictured below.

Key digibal'



10. Click Save Configurations on the left bottom corner. New screen will appear. Click Save under Save Current Settings, then OK and OK again.



11. Navigate to Device Management-> IGSP, Select IGMP Snooping tab. Set IGSP Status to Enable, set Unknown Multicast Drop to Enable, set Multicast VLAN Status to Enable, set Multicast VLAN ID to "1", and leave all other settings as indicated below. Click OK, and OK again.

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	ETWORX	http://w	ww.TitanNetworx.com	
Administration	IGMP Snooping Fast Leav	re	Login As: <b>admin</b>	Access Mode: admin
Auminisu duon	IGSP			
Port Management	IGSF			
	IGSP Status	Enable 🔹	]	Help
VLAN Management	Routing Port Age	105	(1~1000s)	ок
PoE Management	Group-general Query Max Response Time	10	(1~25s)	
Time Range Management	Group-specific Query Max Response Time	2	(1~5s)	
	Host Port Age	260	(200~1000s)	
Device Management	Unknown Multicast Drop	Enable 🔹	]	
MAC	Multicast VLAN Status	Enable 🔹		
STP	Multine et Multine	1	(1~4094, the corresponding VLAN will	
LLDP	Multicast VLAN ID	only take effect when it alread		
► IGSP	*			



12. Select Fast Leave tab. Click Config button.

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Apps G Google 🗋 192.168.	.1.250/cs525da 🗋 TNSS-2400P	🗋 TNSS-2400P			
TITANN Extremely	ETWORX		http://www.TitanNetworx.c		
Administration	IGMP Snooping Fast L	eave		Login As: a	dmin Access Mode: ad
Dort Monoyomout	Port	Fast Leave	Port	Fast Leave	
Port Management	1	Enable	13	Enable	Help
VLAN Management	2	Enable	14	Enable	
	3	Enable	15	Enable	Config
PoE Management	4	Enable	16	Enable	
Time Range Management	5	Enable	17	Enable	
Time Kange Management	6	Enable	18	Enable	
Device Management	7	Enable	19	Enable	
MAC	8	Enable	20	Enable	
STP	9	Enable	21	Enable	
LLDP	10	Enable	22	Enable	
		Enable	23	Enable	
IGSP	11	Litable	20	Endoro	

13. Set Fast Leave to Enable, click Select All. Click OK, and OK again.

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← → C 🗋 192.168.1	.251					۳ 🚖 🗉
🗰 Apps Ġ Google 🗋 192.168	3.1.250/cs525da 🗋 TN55-2400	OP 🗋 TNSS-2400P				
	Connected					
	IGMP Snooping Fas	st Leave			Login As: admin	Access Mode: admin
Administration						
Port Management	Port Setup					
VLAN Management	Fast Leave	Enable	T			Help
	Port Select					ок
PoE Management						Back
Time Range Management		10 12 14 16 9 11 13 15	18 20 22 24 17 19 21 23	21 22 23 24		
Device Management						1
MAC				Select A	II Unselect	
STP						
LLDP						
► IGSP						
SNMP	•					



14. Make sure all the ports are set to **Enable**.

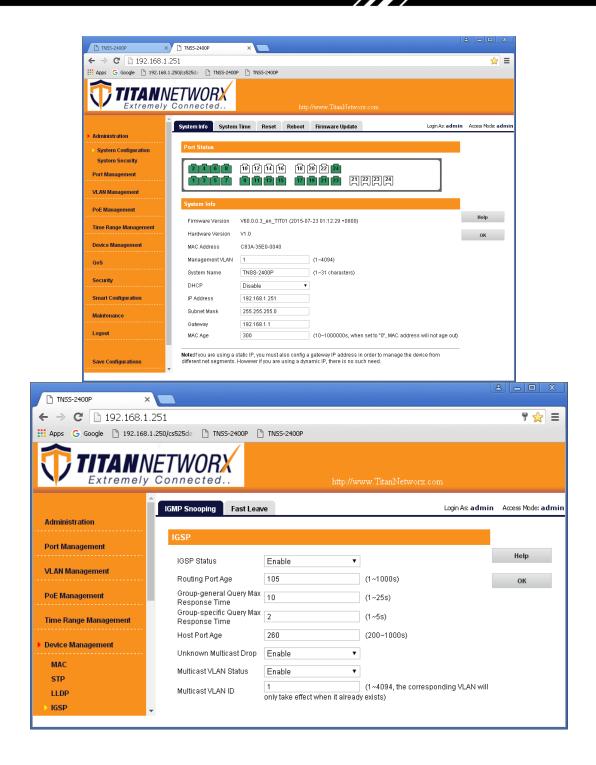
← → C 🗋 192.168.1.25	51				۳ 👷
		TN55-2400P			· 📈
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TITA NI A IL					
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Extremely C	;onnectea	http			
	IGMP Snooping Fast L			Logio Ast ad	lmin Access Mode: ac
Administration	TOWP Shooping Past L	eave		bigin His, die	Haddas Hodd, at
	Port	Fast Leave	Port	Fast Leave	
Port Management	1	Enable	13	Enable	
	2	Enable	13	Enable	Help
VLAN Management	2	Enable	14	Enable	Config
PoE Management		Enable	16	Enable	
	4				
Time Range Management	5	Enable	17	Enable	
	6	Enable	18	Enable	
	7	Enable	19	Enable	
Device Management					
Device Management	8	Enable	20	Enable	
	9	Enable Enable	21	Enable	
мас		Enable			

15. Click Save Configurations on the left bottom corner. New screen will appear. Click Save under Save Current Settings, than OK and OK again.

			L	A 🗕 🗆 🗶
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← → C 🗋 192.168.1	1.251			۲ 🚖 ۳
🗰 Apps Ġ Google 🗋 192.168	3.1.250/cs525da 🗋 TN55-2400P	P 🖺 TN55-2400P		
	VETWORX	http://www.TitanNetworx.com		
	Save Configurations		Login As: admin	Access Mode: admin
Administration				
	Save Current Setting	gs		
Port Management	Click the "Save " buff	on to save your current settings so that they will not be lost upon device		Help
VLAN Management	restart.		Save	
	Backup Settings			
PoE Management				
Time Range Management	Click the "Backup" b	utton to save all current settings to your PC.	Backup	
nine Kange Management	Restore Previous Se	ttin an		
Device Management	Restore Frevious Se	iuniya		
	Click "Browse" to loca	te and select the file saved previously on your local hard drive and then cli	ck "Restore".	
QoS	Choose File No fi	le chosen	Restore	
Security				
Security	Note: You should select	"All files" from the "Files of type" drop-down list, otherwise you may not find	d the file.	
Smart Configuration	•			

- 16. Power down Titan Networx network switch and power it up back again. Wait for the switch to reboot.
- 17. Log in to your Titan Networx network switch again and make sure that IGMP settings are intact:

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Apps G Google 🗋 192.168.1.25	60/cs525da 🗋 TNSS-2400P	TN55-2400P			
	TWORX	htt	p://www.TitanNetwor	x.com	
Administration	IGMP Snooping Fast Le	ave		Login As: adm	in Access Mode: ac
	Port	Fast Leave	Port	Fast Leave	
Port Management	1	Enable	13	Enable	Help
VLAN Management	2	Enable	14	Enable	
	3	Enable	15	Enable	Config
PoE Management	4	Enable	16	Enable	
Time Range Management	5	Enable	17	Enable	
Time Range Management	6	Enable	18	Enable	
Device Management	7	Enable	19	Enable	
MAC	8	Enable	20	Enable	
STP	9	Enable	21	Enable	
LLDP	10	Enable	22	Enable	
	11	Enable	23	Enable	
▶ IGSP		Enable	24	Enable	

- 18. At this point your Titan Networx network switch is set and ready to use.
- 19. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.

#### IGMP Setup Guide: TP-Link TL-SG2428P (Single use only available, not stackable) TP-Link TL-SG3210XHP-M2 (stackable) TP-Link TL-SG3428XMP (stackable) 4K Systems (KD-IP822, KD-IP922, KD-IP1022)

#### \*Steps related to stacking multiple switches are in red\*

1. Power-up the TP-Link network switch.

Key digital'

- 2. **IMPORTANT**: Disconnect all the DHCP devices like routers or servers from the TP-Link network switch.
- 3. (If you want **factory reset** of the switch) Locate a pinhole "RESET" button at the front center panel of your TP-Link network switch. Using a paper clip press and hold a reset button for more than 5 seconds and then release. The factory reset process generally takes 5 minutes to complete
- 4. Connect your PC to the TP-Link network switch directly using a network cable.
- 5. If you have not done yet, configure your PC's IP address to the same range as the switch. (default subnet of the switch **192.168.0.xxx**).
- 6. Enter the switch's IP address in your browser and press ENTER (default IP address 192.168.0.1).
- Enter username and password (default "admin" for both). Then click Log In. If this is the first time logging in, there will be a prompt to create a new password.

Use	rname
8	admin
_	
Pas	sword
8	•••••
	Remember Me
	Log In

# Key digibal'

	SYSTEM L2 FEATURES	L3 FEATURES QoS	SECURITY I	MAINTENANCE	Save 🗲 Log	Out
System Info 🛛 🗸	Port Status					2
System Summary						
Device Description						
System Time	1 3 5	7 9 11 13 15	17 19 21 23			
Daylight Saving Time				25° 26° 27°	28	
LED On/Off						
User Management	System Info					
System Tools	UNIT1					
EEE	System Description:	JetStream 28-Port Gigabit Smart	Switch with 24-Port PoE+			
PoE >	Device Name:	TL-SG2428P				
SDM Template	Device Location:	Hong Kong				
Time Range	Contact Information:	www.tp-link.com				
	Hardware Version:	TL-SG2428P 1.0				
Controller Settings	Firmware Version:	1.1.1 Build 20210514 Rel.62941				
	Boot Loader Version:	TP-LINK BOOTUTIL(v1.0.0)				

8. Set the static IP address of the network switch.

Go to L3 FEATURES -> Interface. Ensure IPv4 Routing is enabled. If not, apply the IPv4 routing. Click "Edit IPv4" to set the desired IP address of the network switch.

Ptp-link		URES L3 FEATUR	ES QoS	SECUR	ity maintenai	NCE	Save 🗲 Log Out
Routing Table > ARP >	Routing Config	5.11					0
Interface Static Routing DHCP Service		Enable					Apply
,	Interface Config						+ Add Delete
	Interface ID	IP Address Mode	IP Address	Subnet Mask	Interface Name	Status	Operation
	VLAN1	Static	192.168.1.251	255.255.255.0		Up	Edit IPv4 Edit IPv6 Detail
	Total: 1						

9. Select "Static" and enter the desired IP address and subnet mask. Click Apply.

IP address can be changed by the administrator depending on the network configuration. We recommend using an address that is within the subnet of the AVoIP system for ease of maintenance

After applying, you will need to log in again using new IP address. (Ensure the PC and switch are the same

#### network before login).

✓ Back			
Modify IPv4 Interf	ace		
Interface ID:	VLAN1		
Admin Status:	Enable		
Interface Name:		(Optional. 1-16 characters)	
IP Address Mode:	🔿 None 💿 Statio	DHCP O BOOTP	
IP Address:	192.168.1.251	(Format: 192.168.0.1)	
Subnet Mask:	255.255.255.0	(Format: 255.255.255.0)	
Subnet Mask:	255.255.255.0	(Format: 255.255.255.0)	

### Confirm the updated IP address table. Go to L3 FEATURES -> IPv4 Routing Table.

Key digibal

Routing Table	$\sim$	IPv4 Routing Table					
IPv4 Routing Table							
IPv6 Routing Table							🗿 Refresh
ARP	>	Protocol	Destination Network	Next Hop	Distance	Metric	Interface Name
Interface		Connected	192.168.1.0/24	192.168.1.251	0	1	VLAN1
Static Routing	>	Total: 1					
DHCP Service	>						

#### 11. Enable Jumbo Frames.

Key digital',

#### Go to L2 Features -> Port and set frame size to 9216

Switching           • Part         • LAG         • MAC Address         VLAN         Multicast         >Spanning Tree         LLDP         Ort 10/1         Port         Tio/2         Copper         Enabled         Auto         Auto         Disabled         -         10/3         Copper         Enabled         Auto         10/3         Copper         Enabled         Auto         10/3         Copper         Enabled         Auto         Auto         Disabled         -         10/3         Copper         Enabled         Auto       Auto         Disabled       -         10/3       Copper         Enabled       Auto       Auto         Disabled       -         10/3       Copper       Enabled         10/3       Copper       Enabled         10/3       Copper       Enabled	₽tp-link			_							Save 🗧	
LAG   MAC Address     VLAN     VLAN     VLAN     Vulticast     Spanning Tree     LDP     UNIT1   LAG     10/1   Copper   Enabled   Auto   Diabled     10/2   Copper   Enabled   Auto   Diabled     10/1   Copper   Enabled   Auto   Diabled   10/1   Copper   Enabled   Auto   Diabled   10/1   Copper   Enabled   Auto   Diabled   10/1   Copper   Enabled   Auto   Auto   Diabled   10/1   Copper   Enabled   Auto   Auto   Diabled   10/1   Copper   Enabled   Auto   Auto   Diabled   10/10   Copper   Enabled   Auto   Diabled </td <td></td> <td><math>\sim</math></td> <td>Port Conf</td> <td>g</td> <td>Port Isolation</td> <td>Loopback Detecti</td> <td>on</td> <td></td> <td></td> <td></td> <td></td> <td>?</td>		$\sim$	Port Conf	g	Port Isolation	Loopback Detecti	on					?
MAC Address     Jumbo:     9216     bytes (1518-9216)     Jumbo:     9216     bytes (1518-9216)     VLAN     Vulticast     Spanning Tree     UNT1     LDP     Port   Type   Description   Status   Speed   Duplex   Flow Control   LDP     Port   Type   Description   Status   Speed   Duplex   Flow Control   LAG     1001   Copper   Enabled    Auto   Auto   Disabled     1006   Copper   Enabled   Auto   Auto   Disabled     Port   Type   Description   Status   Speed   Duplex   Flow Control   LAG     Port   Type   Description   Status   Speed   Duplex   Flow Control   LAG     Port   Topley   Enabled   Auto   Auto   Disabled   Port   Topley   Enabled   Auto   Disabled <tr< td=""><td></td><td></td><td>Port Confid</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr<>			Port Confid									
VLAN       Spanning Tree       UNIT1       LAGS         LLDP       Port       Type       Description       Status       Speed       Duplex       Flow Control       LAG         1/0/1       Copper       Enabled       Auto       Auto       Disabled       -         1/0/2       Copper       Enabled       Auto       Auto       Disabled       -         1/0/3       Copper<												
Multicast       Image: Comparison of the com			Jumbo:		9216	byt	es (1518-9216)					
ILDP       INITI       LAGS         0       Port       Type       Description       Status       Speed       Duplex       Flow Control       LAGS         0       1/0/1       Copper       Enabled       Auto       Auto       Disabled          0       1/0/2       Copper       Enabled       Auto       Auto       Disabled          0       1/0/3       Copper       Enabled       Auto       Auto       Disabled          0       1/0/4       Copper       Enabled       Auto       Auto       Disabled          0       1/0/4       Copper       Enabled       Auto       Auto       Disabled          0       1/0/4       Copper       Enabled       Auto       Auto       Disabled          0       1/0/6       Copper       Enabled       Auto       Auto       Disabled          0       1/0/7       Copper       Enabled       Auto       Auto       Disabled          0       1/0/8       Copper       Enabled       Auto       Auto       Disabled          0       1/0/8       Copper       Ena	VLAN	>									Apply	
Port       Type       Description       Status       Speed       Duplex       Flow Control       LAG                 1/0/1       Copper       Enabled       Auto       Auto       Disabled                  1/0/2       Copper       Enabled       Auto       Auto       Disabled                  1/0/3       Copper       Enabled       Auto       Auto       Disabled                  1/0/3       Copper       Enabled       Auto       Auto       Disabled                  1/0/3       Copper       Enabled       Auto       Auto       Disabled                  1/0/5       Copper       Enabled       Auto       Auto       Disabled                  1/0/5       Copper       Enabled       Auto       Auto       Disabled                  1/0/6       Copper       Enabled       Auto       Auto       Disabled                  1/0/7       Copper       Enabled       Auto       Auto       Disabled                  1/0/8       Copper       Enabled       Auto       Auto       Disabled </td <td>Multicast</td> <td>&gt;</td> <td></td>	Multicast	>										
1/0/1       Copper       Enabled       Auto       Auto       Disabled       -         1/0/2       Copper       Enabled       Auto       Auto       Disabled       -         1/0/3       Copper       Enabled       Auto       Auto       Disabled       -         1/0/4       Copper       Enabled       Auto       Auto       Disabled       -         1/0/4       Copper       Enabled       Auto       Auto       Disabled       -         1/0/5       Copper       Enabled       Auto       Auto       Disabled       -         1/0/5       Copper       Enabled       Auto       Auto       Disabled       -         1/0/5       Copper       Enabled       Auto       Auto       Disabled       -         1/0/6       Copper       Enabled       Auto       Auto       Disabled       -         1/0/7       Copper       Enabled       Auto       Auto       Disabled       -         1/0/8       Copper       Enabled       Auto       Auto       Disabled       -         1/0/9       Copper       Enabled       Auto       Auto       Disabled       -	Spanning Tree	>	UNIT1		LAGS							
1/0/2CopperEnabledAutoAutoDisabled-1/0/3CopperEnabledAutoAutoDisabled-1/0/4CopperEnabledAutoAutoDisabled-1/0/5CopperEnabledAutoAutoDisabled-1/0/5CopperEnabledAutoAutoDisabled-1/0/6CopperEnabledAutoAutoDisabled-1/0/7CopperEnabledAutoAutoDisabled-1/0/8CopperEnabledAutoAutoDisabled-1/0/9CopperEnabledAutoAutoDisabled-	LDP	$\rightarrow$		Port	Туре	Description	Status	Speed	Duplex	Flow Control	LAG	
InvolutionCopperEnabledAutoAutoDisabled1/0/4CopperEnabledAutoAutoDisabled1/0/5CopperEnabledAutoAutoDisabled1/0/6CopperEnabledAutoAutoDisabled1/0/7CopperEnabledAutoAutoDisabled1/0/7CopperEnabledAutoAutoDisabled1/0/8CopperEnabledAutoAutoDisabled1/0/9CopperEnabledAutoAutoDisabled				1/0/1	Copper		Enabled	Auto	Auto	Disabled	-	
1/0/4CopperEnabledAutoAutoDisabled-1/0/5CopperEnabledAutoAutoDisabled-1/0/6CopperEnabledAutoAutoDisabled-1/0/7CopperEnabledAutoAutoDisabled-1/0/7CopperEnabledAutoAutoDisabled-1/0/8CopperEnabledAutoAutoDisabled-1/0/9CopperEnabledAutoAutoDisabled-				1/0/2	Copper		Enabled	Auto	Auto	Disabled	-	
1/0/5CopperEnabledAutoAutoDisabled-1/0/6CopperEnabledAutoAutoDisabled-1/0/7CopperEnabledAutoAutoDisabled-1/0/8CopperEnabledAutoAutoDisabled-1/0/9CopperEnabledAutoAutoDisabled-				1/0/3	Copper		Enabled	Auto	Auto	Disabled	-	
1/0/6CopperEnabledAutoAutoDisabled-1/0/7CopperEnabledAutoAutoDisabled-1/0/8CopperEnabledAutoAutoDisabled-1/0/9CopperEnabledAutoAutoDisabled-				1/0/4	Copper		Enabled	Auto	Auto	Disabled	-	
1/0/7CopperEnabledAutoAutoDisabled-1/0/8CopperEnabledAutoAutoDisabled-1/0/9CopperEnabledAutoAutoDisabled-				1/0/5	Copper		Enabled	Auto	Auto	Disabled	-	
1/0/8CopperEnabledAutoAutoDisabled-1/0/9CopperEnabledAutoAutoDisabled-				1/0/6	Copper		Enabled	Auto	Auto	Disabled	-	
D 1/0/9 Copper Enabled Auto Auto Disabled -				1/0/7	Copper		Enabled	Auto	Auto	Disabled	-	
				1/0/8	Copper		Enabled	Auto	Auto	Disabled	-	
L 1/0/10 Copper Enabled Auto Auto Disabled -				1/0/9	Copper		Enabled	Auto	Auto	Disabled	-	
				1/0/10	Copper		Enabled	Auto	Auto	Disabled	-	•

If the port is a member port of an LAG, it will follow the port configuration of the LAG and not its own.



12. IGMP setup.

Go to L2 FEATURES -> Multicast -> MLD Snooping.

Select "Enable" under MLD Snooping. Click Apply.

Ptp-link		SYSTEM	L2 FEATURES	L3 FEATURE	ES QoS		ECURITY I	MAINTENANCE	¢	Save 🗧	Log O
Switching VLAN	>	Global Config		ig Static G	Group Config						2
Multicast	~	Global Config			٦						
IGMP Snooping     MLD Snooping     MVR	]	MLD Snooping: Unknown Multica	ist Groups:	Enable     Forward	Discard				Γ	Apply	
Multicast Filtering     Multicast Info		MLD VLAN C	onfig	0		•					
Spanning Tree	>	VLAN ID	MLD Snooping Status	Fast Leave	Report Suppression	MLD Snooping Querier	Dynamic Router Ports	Static Router Ports	Forbidden Router Ports	Operation	n
		1	Disabled	Disabled	Disabled	Disabled				6	)
		Total: 1 Showing 1-1 of 1 r	ecords Items p	er page: 100	•						

13. Go to L2 FEATURES -> Multicast -> IGMP Snooping -> Global Config.

Select **Enable** under IGMP Snooping. Select **v2** version and **Discard** for Unknown Multicast Groups. And click Apply.

Ptp-link	SYSTEM <b>L2 FEATURES</b> L3	3 FEATURES QoS	SECURITY	MAINTENANCE	Save 🗲 Log Out
Switching > VLAN >	Global Config Port Config	Static Group Config			0
Multicast 🗸 🗸	Global Config				
IGMP Snooping	IGMP Snooping:	Enable			
MLD Snooping	IGMP Version:	○ v1 💿 v2 ○	v3		
• MVR	Unknown Multicast Groups:	<ul> <li>Forward</li> <li>Disca</li> </ul>	ard		
Multicast Filtering	Header Validation:	<ul> <li>Enable</li> </ul>			
Multicast Info					Apply
Spanning Tree	IGMP VLAN Config				

14. After applying the settings from the step 13, click the icon under IGMP VLAN Config table.

Key digibal

Global Config	Port Confi	g Static G	Group Config					
lobal Config								
MP Snooping:		Γ	<ul> <li>Enable</li> </ul>					
MP Version:			⊖ v1 💿 v	2 🔿 v3				
known Multicast	Groups:		O Forward	Oiscard				
ader Validation:			Enable				_	
MP VLAN Co	onfig	٩		•				
VLAN ID	IGMP Snooping Status	Fast Leave	Report Suppression	IGMP Snooping Querier	Dynamic Router Ports	Static Router Ports	Forbidden Router Ports	Operation
1	Enabled	Enabled	Enabled	Enabled				0 Q
otal: 1							After applyi	ng above
owing 1-1 of 1 rec	ords Items pe	er page: 100	•				settings, clic	k this!

15. IGMP Snooping window will appear. Make sure below settings (red boxes) enabled.

Change "General Query Source IP" to the current network switch's IP address. (192.168.1.251 in this case).

a. Have all switches share the same general query source IP

Key digital',

Configure IGMP Snoo	ping for VLAN		
VLAN ID:	1		
IGMP Snooping Status:	Enable		
Fast Leave:	Enable		
Report Suppression:	Enable		
Member Port Aging Time:	260	seconds (60-600)	
Router Port Aging Time:	300	seconds (60-600)	
Leave Time:	1	seconds (1-30)	
IGMP Snooping Querier:	Enable		
Query Interval:	60	seconds (10-300)	
Maximum Response Time:	10	seconds (1-25)	
Last Member Query Interval:	1	seconds (1-5)	
Last Member Query Count:	2	(1-5)	
General Query Source IP:	192.168.1.251	( <sup>0</sup> ptional. Format: 192.168.0.1)	
Static Router Ports		—	
	UNIT1	LAGS	
		Cancel	ve

- 16. Scroll down the window and leave all the ports unchecked. Click Save.
  - a. In some cases, the specific port connected to any Wi-Fi routers or a core network may need to be forbidden at this page. If applicable, check those ports **ONLY** and leave others unchecked

Configure IGM	P Snooping for VLAN
General Query Sour	CE IF. 132.100.1.231 (Upitulial, Fulfilal, 192.100.0.1)
Static Router Po	rts
	UNIT1 LAGS
	1         3         5         7         9         11         13         15         17         19         21         23         25         27
Select All	2         4         6         8         10         12         14         16         18         20         22         24         26         28
	Selected Unselected Not Available
Forbidden Route	er Ports
	UNIT1 LAGS
Select All	1         3         5         7         9         11         13         15         17         19         21         23         25         27
	2         4         6         8         10         12         14         16         18         20         22         24         26         28           _s         _s
	Selected Unselected Not Available
	Cancel

17. Enable Fast Leave on all ports.

Key digital"

Go to L2 FEATURES -> Multicast -> IGMP Snooping -> Port Config.

Switching VLAN	>	Global Config	Port Config Static	Group Config				
Multicast	$\sim$	Port Config						
IGMP Snooping	]	UNIT1	LAGS					
MLD Snooping			Port	IGMP Snooping	Fast L	_eave	LAG	
• MVR			1/0/1	Enabled	Enal	bled		-
Multicast Filtering			1/0/2	Enabled	Enal	bled		
Multicast Info			1/0/3	Enabled	Enal	bled		
Spanning Tree	>		1/0/4	Enabled	Enal	bled		
LLDP	>		1/0/5	Enabled	Enal	bled		
			1/0/6	Enabled	Enal	bled		
			1/0/7	Enabled	Enal	bled		
			1/0/8	Enabled	Enal	bled		
			1/0/9	Enabled	Enal	bled		
			1/0/10	Enabled	Enal	bled		-
		Total: 28						

18. View IGMP VLAN Configurations.

Key digibal',

#### Go to L2 FEATURES -> Multicast -> IGMP Snooping -> Global Config. Click icon (yellow box in image).

View IGMP VLAN Con	ifigurations
VLAN ID:	1
IGMP Snooping Status:	Enabled
Fast Leave:	Enabled
Report Suppression:	Enabled
Member Port Aging Time:	260
Router Port Aging Time:	300
Leave Time:	1
IGMP Snooping Querier:	Enabled
Query Interval:	60
Maximum Response Time:	10
Last Member Query Interval:	1
Last Member Query Count:	2
General Query Source IP:	192.168.1.251
Dynamic Router Ports:	
Static Router Ports:	
Forbidden Router Ports:	

#### 19. Save the current configuration.

Click "Save" button on top right corner. Click Yes.

This will save current configuration and will apply this configuration every time switch is powered up.

Ptp-link	SYSTEM L2 FEATURES L3 FEATURES QoS SECURITY MAINTENANCE
System Info 🛛 🗸	Port Status
Device Description	
System Time	1 3 5 7 9 11 13 15 17 19 21 23
Daylight Saving Time	2     4     6     8     10     12     14     16     18     20     22     24     25     26     27     28
LED On/Off	
User Management	System Info
System Tools	UNIT1
EEE	System Description: IntStream 28 Det Glashit Smart Switch with 24-Port PoE+
PoE	Device Name:
SDM Template	Device Location: Save the configuration file?
Time Range	Contact Information
Controller Settings	Hardware Version: No Yes
Controller Cealings	Firmware Version:

20. If aggregating 10G fiber connections, navigate to L2 Features -> LAG -> Static LAG. Assign all relevant ports to the LAG and confirm. Use the LAG table to confirm the proper settings have been applied.

Key digital'

Ptp-link	SYSTEM L2 FEATURES L3 FEATURES QoS SECURITY MAINTENANCE	Save 🗲 Log Out
Switching V • Port • DDM	LAG Table Static LAG LACP Config	0
LAG     MAC Address     VLAN     Multicast     Spanning Tree     LLDP     L2PT     PPPoE	Group ID:       LAG1         Description:       Static LAG         Port:       10/25-26         (Format: 1/0/1, input or choose below)         UNIT1         1       3       5       7       9       11       13       15       17       19       21       23       25       27         2       4       6       8       10       12       14       16       18       20       22       24       26       28         2       4       6       8       10       12       14       16       18       20       22       24       26       28         2       5       5       5       5       10       12       14       16       18       20       22       24       26       28       26       28       26       28       26       28       26       28       26       28       26       28       26       28       26       28       26       28       26       28       26       28       26       28       28       26       28       26       28       28       26       28       28       24       26	Apply
₽tp-link	SYSTEM L2 FEATURES L3 FEATURES QoS SECURITY MAINTENANCE	Save 🗲 Log Out
Switching V • Port • DDM • LAG • MAC Address	LAG Table     Static LAG     LACP Config       Global Config       Hash Algorithm:     SRC MAC+DST MAC	Apply
VLAN > Multicast > Spanning Tree >	LAG Table	
LLDP > L2PT PPPoE	Group ID     Description     Members       1     Static LAG     1/0/25-26   Total: 1	Operation

- 21. To double-check the updated configuration, reboot the network switch and confirm the configuration. After rebooting the switch, log in to your TP-Link network switch again and make sure that IGMP settings are intact.
- 22. Connect your encoders, decoders, allow approx 3 mins for bootup, and perform a network scan using KD Management Software.



#### WiFi Router Setup

It is required to set your WiFi router to **filter multicast (aka filter broadcast)** to ensure that your router is not overwhelmed by the data broadcast from AV over IPunits on the network.

Example of applying multicast filtering in a Linksys router:

😴 LG5552 52-Port Gigabit Mani 🗙 🗘 Linksys Smart V	wi-fi ×						A x
← → C 🗋 192.168.1.1/ui/1.0.99.15	3731/dynamic/home.h	ntml#					☆ =
LINKSY	<b>'S</b> " Smart Wi-Fi		App Center	Help Linksy	s-KDS-TEST 🔻	Sign Out 👻	Î
<							
	Security						
	ew and change router setting	na					
	en and change router seum	20 20					
	Firewall DMZ A	pps and Gaming					
Fi	irewall		Internet filters				
83	IPv4 SPI firewall protection	Enabled	Filter anony	mous Internet request	5		
$\odot$	IPv6 SPI firewall protection	Enabled	Filter multica	ast			
VI	PN Passthrough			et NAT redirection			
and the second		Enabled	Filter ident (	Port 113)			
		Enabled					
*0 IP							
	v6 Port Services						
	Description	Protocol	IPv6 Address	Allow	Enabled		
(in)					Add IPv6 Fit	rewall Setting	
<b>0</b> •							
			•	ik Ca	incel	Apply	
				End User License Agreem	ent   Privacy Statemen	t Third Party Licenses	

\*The following requirements must be met in order to support the live streaming feature of the Key Digital app (1080p systems, KD-IP1080/KD-IP120 only):

- Verified model = Cisco/Linksys EA6700 router
- Network switch must support IGMP v3 and configured to enable IGMP v3.
- Wifi Router
  - Must be configured so that multicast filtering is enabled. See above example
  - Must support 50Mbps bandwidth per iOS that will be streaming video
    - It is recommended that only 1 iOS be in the Live Stream page at a time
- iOS Device
  - Best performance is with iPad4, iPad Air, iPad Mini. More powerful processing will always benefit.
  - Should have Static IP with Router IP corresponding to master network switch