# Pakedge SX-24P Setup Guide

When used with ELAN Video Over IP products

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## Introduction

The ELAN Video Over IP solution requires a layer 3 Managed switch in order for HDMI distribution to be achieved reliably and with no loss in performance.

The following guide is a step-by-step instruction on how to connect and configure your Pakedge SX-24P Layer 3 Managed network switch. These instructions may be suitable for other Pakedge switches. Please see Pakedge's product manuals for further information.

# Pakedge Feature Requirements

The following features need to be enabled on the Pakedge network switch:-

- 1. Layer 3 mode
- 2. Maximum Transmission Units
- 3. IGMP Snooping/Video Over IP
- 4. Fast Leave
- 5. POE (if utilised)

#### Feature explanation:

- Video Over IP (one-to-many or many-to-many distribution) is group communication where information is addressed to a group of network devices simultaneously (ELAN Video Over IP products).
- Maximum transmission units Jumbo frames are Ethernet frames with more than 1500 bytes of payload. Conventionally, jumbo frames can carry up to 9000 bytes of payload hence the maximum transmission units must be raised in order to send large packets of data for HDMI distribution.
- IGMP management & snooping is the process of listening to Internet Group Management Protocol (IGMP) network traffic. The feature allows a network switch to listen in on the IGMP conversation between hosts, routers & receivers (Video Over IP Transmitter, network switch and Video Over IP Receiver). By listening to this flow of traffic the switch maintains a map of which links need which IP Video Over IP streams. (which ELAN Video Over IP products are active and where the signal is being distributed to).

### Connecting to the switch Web GUI Interface

To login into the Pakedge network switch the factory default details are:

IP Address:	192.168.1.205
User:	pakedge
Password:	pakedges

In order to connect to the network switch your computer will need to be physically connected to the Pakedge switch using a Ethernet network cable. The computer must also be in the same IP range as the Pakedge switch default IP address. If you are unsure how to update your computer IP range follow the 'Changing your computer IP address' instructions at the rear of this guide.

- 1) Open your internet browser (Google Chrome, Mozilla, Internet Explorer etc)
- 2) Type the network switch default IP address into the web browser bar
- 3) Enter the default user name and password

Note: If the switch is not using the factory default settings you will need to know these login details or have to factory reset the unit. For details how to factory reset the network switch please refer to the networks switch user manual.



### Maximum Frame Size

#### To increase the maximum frame size,

#### Under 'Ports' menu

Select 'Port Settings'

#### Select 'MTU'

#### Highlight all ports and ensure 'MTU' is set to 9216 for all ports.

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9		( Syst	em :		Ports		) vlan	C	D Traffic	$\in$	) Manage	ment	Logo
(	····) Port	Settings											
	Common C	onfiguratio	n Port Stat	istics Flow	Control Broa	adcast Storn	n Port Rate	limit MTU	Link Aggrega	tion Mirror	ę.		
			0	8	10	12	- 14	16	18	20	12	24	
	1218	9778	9216	9,216	9216	9216	9716	9216	9218	10230	9236	4216	
		•		1		- 11	<sup>n</sup>	15	12	19	21	2	
	4216	9210	0216	9216	9216	9216	9216	9316	9316	9216	9290	8210	
							мти						
							9216						
					-		-	-					

Click 'APPLY' to update the setting

### **IGMP** Snooping

To enable IGMP snooping, there are several steps required to enable this feature:-

- IGMP Snooping
- Unknown Video Over IP Action
- Fast Leave

The following pages explain how to update the above settings.

### **IGMP** Snooping

Under 'Traffic' menu

Select'IGMP'

Select'IGMP Snooping'

Set 'IGMP Status' to Enabled

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← → C ①	192.168.1.205/igmp_config.html				_	A 🖪 i
5X-24P	(‡) System	Ports	VLAN	Traffic		Logout
	IGMP Snooping Multicast Filter	ing Fast Leave Multicast	Group			
			IGMP Global Setup			
		IGMP Status Enable	Multicast VLAN Registrat	ion Status Disable •		
			Apply Clear			
			pakedgedevice&software inc			

Click'Apply' to update the setting

# 

### **Unknown Multicast Action**

#### Under 'Traffic' menu

Select'IGMP'

#### Select'IGMP Snooping'

Select the red strip (	to adjust IGMP	settings
	-	

O Pakedge De	evice and Scill X								<b>M</b> - D	×
< → C (	192.168.1.205/igmp_con	fig.html							\$ I	<b>A</b> . 3
SX-24P	(*)	ystem (		Ports	VLAN		Iraffic 🖃	Management	Logo	iit :
	() IGMP									
	IGMP Snooping M	ulticast Fil	tering Fast Lea	ve Multicast Group						
				KGM	P Global Sittup					
			IGMP Status	Enable • Multic	cast VLAN Registration St.	atus Di	sable •			
				Apply	Clear					
			Briefing			Hot				
	0	VLAN C	Statu Age	Group-general Query Mail Response Time	Group-specific Query Max Response Time	Port Age	Unknown Multicast Action			
	1	1 1	Enable 105	10	2	260	Flood	$\bigotimes$		

#### Change 'Unknown Multicast Action' to Drop

		IGMP Global Setup	
VLAN ID	1	Querier State	Enable *
Routing Port Age	105	Group-general Query Max Response Time	10
Group-specific Query Max Response Time	2.	Host Port Age	260
Unknown Multicast Action	Drop	•	
	Аррђу	Clear Back	
		alexine inclusion inc	

#### Click 'Apply' to update the setting

### Fast Leave

#### Under 'Traffic' menu

Select'IGMP'

Select 'Fast Leave"



Highlight the channels you wish to adjust Fast Leave for.

Change 'Fast Leave' to Enabled

Click 'Apply' to update the setting

## Turning On/Off POE

Not all Pakedge SX switches support POE. Furthermore, not all ports on the POE switches support POE. Please ensure your products are connected to the correct port. If you are unsure of the POE port setting please follow the below instructions.

Under 'Ports' menu

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#### Select'POE'

The following diagram shows the settings for each RJ45 LAN port on the network switch. Default settings are for POE Mode to be set to 802.3at (Enabled) so changes should not be required. If POE is 'Disabled please follow below instructions.

AP		(I) Syst	em	() PC	rts	$\bigcirc$	VLAN	C	Traffic	Ē	Manager	ment 2	Logout
		0				۲		(	9	0	<u></u>		
L,	2	4	6		10		14	16	18	20	22	24	
1	Q.3.M	602.3at	602.2.M	002.3at	902.3at	802.3.st	802.3vt	102,3vt	002.3.m	002.3vt	е © 802.3ы	0 m 802.3 at	
3	Low D(W)	Low 30(W)	Low 30(W)	Low SD(W)	Low 30(W)	Low 30(W)	Low 30(W)	Low locvo	Low 3D(W)	Low BO(W)	Low AQU/O	1000 30(W)	
T	1	3	5	7	9	11	13	15	17	19	21	23	
					• •								
	Liber	Arten .	Low	602.3at	Low	Ltwe	Low	Low	BO2.5et	Love	SOTT N	line	
Î		Section .	2010	Julius	20(10)	20040	notivo		20(00)		2400	34,00	
						Enabled 23at - Power – c PD Law - P 30tWir Sta – Tar	Coensilon Ispoly Stand Ison Isonty tic Power Isonge	54					
			POE	Power Status	POE Pow	er Standard	POE Po	wer Priority	POE Power Ti	merange			
			Make	no change 🔹	Make no	change 🔹	Make no	change •	Make nocha	inge 🔹			
					-								

Highlight the channels you wish to adjust POE for. Change 'POE Power Status' to Enabled

Click 'Apply' to update the setting

### Changing your computer IP address to communicate with the network switch

1) Connect your computer to your network switch using Ethernet cable

- 2) In the Windows toolbar navigate to 'CONTROL PANEL'
- 3) Select 'NETWORK AND INTERNET'

#### Adjust your computer's settings



Review your computer's status Save backup copies of your files with File History Backup and Restore (Windows 7) Find and fix problems



Connect to the Internet View network status and tasks Choose homegroup and sharing options



Hardware and Sound View devices and printers Add a device Adjust commonly used mobility settings



Programs Uninstall a program



Clock, Language, and Region Add a language Change input methods Change date, time, or number formats

Appearance and Personalization

View by: Category \*



Ease of Access Let Windows suggest settings Optimize visual display

User Accounts

Adjust screen resolution

#### 5) Select 'NETWORK AND SHARING CENTER'



6) Under 'View your Active Networks' you can see connection types available.

The example below shows both LAN (local area connection) and Wireless.

Select 'Local Area Connection' as this is the method of communication you are using with the switch.





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#### 7) In the next window select 'PROPERTIES'

Connection		
IPv4 Connectivit	y:	No Internet access
IPv6 Connectivit	y:	No network access
Media State:		Enabled
Duration:		01:54:53
Speed:		1.0 Gbps
Details		
Details Activity		
Details	Sent —	Received
Details Activity Bytes:	Sent — 10,425,696	Received 236,846,108

8) A. In the 'NETWORKING' window highlight/select 'INTERNET PROTOCOL VERSION 4 (TCP/IPv4)
B. Select 'PROPERTIES'

Connect using:				
📄 Intel(R) PR	O/1000 MT Netwo	k Connectio	on	
			Configure	ə
This connection u	uses the following ite	ems:		
🗹 🕂 Client for	Microsoft Network	s		1
🗹 🚚 File and	Printer Sharing for M	Aicrosoft Ne	tworks	
🛛 🗐 QoS Pac	ket Scheduler			
🗌 🔺 Microsof	t Network Adapter I	Multiplexor F	rotocol	
🗹 🥧 Link-Lay	er Topology Discov	ery Mapper	I/O Driver	
🗹 🔺 Internet	Protocol Version 4 (	TCP/IPv4)	>	
Microsof	t LLDP Protocol Dri	ver		
<				>
Install	Uninsta	I	Properties	S
Description				
Allows your cor	mputer to access re	sources on	a Microsoft	
network.				

#### 9) A. Under the 'General' tab select 'USE THE FOLLOWING IP ADDRESS'

#### B. Enter the following FIXED IP network details

Internet Protocol Version 4 (TCP/IPv4)	Properties	$\times$
General		
You can get IP settings assigned autom this capability. Otherwise, you need to for the appropriate IP settings.	aatically if your network supp ask your network administra	orts tor
Obtain an IP address automatical	у	
• Use the following IP address:		
IP address:	192.168.0.10	
Subnet mask:	255.255.255.0	
Default gateway:	192.168.0.1	
Obtain DNS server address autom	atically	
• Use the following DNS server addr	resses:	
Preferred DNS server:		
Alternate DNS server:	• • •	
Validate settings upon exit	Advance	
	ОК С	ancel

10) Click 'OK' and exit the network setup

11) Enter the default Pakedge IP address in your web browser and check that you can connect to the unit.

