

Zyxel AVoIP Network Promotion Guide



Background

- More and more audio and video system are transforming their traditional Matrix Switch infrastructure to industry standard IP-based network technology. This change brings flexibility to easily scale AV networks as well as extends to longer distance.
- Traditional AV system makers are less familiar with IP-based network setup, especially with IGMP setting. Detailed IGMP parameter could easily be ignored which results major impact to system performance.
- Zyxel is a professional Ethernet switch provider with profound knowledge in IP multicasting for various applications. This document serves as a guidance for proper IGMP setting in different AVoIP scenarios.

Switch For Networked AV

GS2220 Series



LAN	1G
Uplink:	1G
Uplink type	Combo (SFP/RJ45)
Models	8/8HP/24/24HP/48/48HP
Type (Class)	Cloud / L2 Plus
High PoE Budget	180W (8HP) 375W (24HP/48HP)
PoE standard	PoE & PoE+
Networked AV mode	Yes

XGS2210 Series



10G

LAN	1G
Uplink	10G
Uplink type	10G SFP+
Models	28/28HP/52/52HP
Type (Class)	L3 Access
High PoE Budget	375W
PoE standard	PoE & PoE+
Networked AV mode	Yes

XS3800-28



mGig

10G

LAN	1G/2.5G/5G/10G
Uplink	10G
Uplink type	Combo (10G SFP+/10G mGig RJ45)
Type (Class)	Cloud / L3 Aggregation
Networked AV mode	Yes

XGS2210 Firmware Support

Special Firmware support for ATEN: 450xxxx_20220910.zip

Upgrade Procedure:

1. Switch Firmware upgrade
2. Change IP address to 192.168.1.1
3. Click [Networked AV] icon to apply default AVoIP setting

ZYXEL GS2220 Refresh Save Status Logout Help

Networked AV

Menu

- Basic Setting
- Advanced Application
- IP Application
- Management

Status

Device Information

Device Type	GS2220-28HP	System Name	GS2220
Boot Version	V1.00 03/29/2019	System Location	
Firmware Version	V4.70(ABRR.0)b7 07/15/2020	System Time	09/15/2020 08:08:57
Hardware Version	V1.0	System Up Time	048 days,01 hours,17 mins,45 secs
MAC Address	00:50:ba:33:66:99	Login Timeout(mins)	5
Serial Number	xxxxxxxxxxxxxxxx	Registration MAC Address	00:50:ba:33:66:99
Hybrid Mode	Standalone QR Code	Cloud Control Status	Disconnected
PoE Usage	0.0/375.0 W (0%)		

[Detail](#)

IP Address Information

IPv4 Address	172.21.56.80
Subnet Mask	255.255.252.0
Default Gateway	172.21.59.254 IP Setup
IPv6 Global Unicast Address	
IPv6 Link-Local Address	fe80::250:baff:fe33:6699 IPv6 configuration

Device Status and Quick Configuration

STP	Disable Setting	SNMP Status (I)	Enable Setting
Port Mirroring	Disable Setting	802.1X Status	Disable Setting
Storm Control	Disable Setting	DHCP Relay	Disable Setting
IGMP Snooping	Disable Setting	IPSG	Disable Setting

Tailor-made Experience For Networked AV

Standard Mode

Zyxel's standard Layer 2 managed switch web interface suitable for advanced users to utilize complete switching features in complex networks.



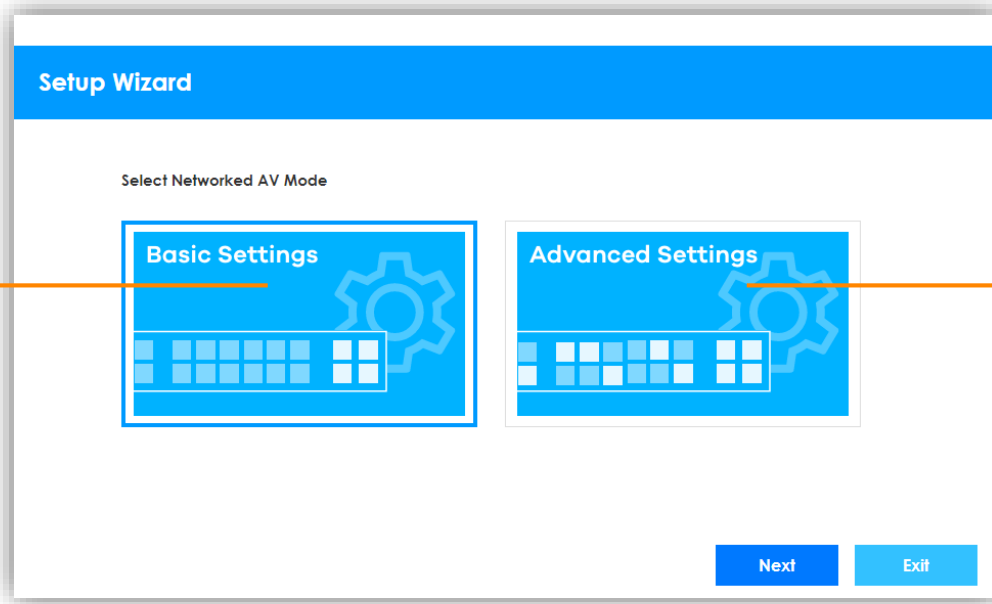
Networked AV Mode

An intuitive web interface redesigned with chosen Networked AV features to give you an instantly view of the current status, with a condensed function menu to help you maintain and configure with ease.

Networked AV Setup Wizard

There are 2 options for the setup wizard: basic settings and advanced settings. Choose the one which fits your applications before start.

Basic Settings
Simply click Next
and go.



Advanced Settings
Ease the complex VLAN
settings in one step.

Wizard Step 1 - Setup IP

1 IP **2** Password **3** Networked AV **4** Summary

STEP

Setup IP

Host Name: GS2220

IP Interface: Static IP Interface DHCP Client

VID: 1

IP Address: 192.168.9.42

IP Subnet Mask: 255.255.255.0

Default Gateway: 192.168.9.1

DNS Server: 192.168.9.1

Next **Cancel**

Wizard Step 2 - Change Password

1 IP **2 Password** 3 Networked AV 4 Summary

STEP

Change administrator's password and SNMP

It is recommended to change password and SNMP community string to avoid potential security breach.

Administrator's Password	SNMP
Current password: <input type="password"/>	SNMP: <input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
New password: <input type="password"/>	Version: v2c ▾
Confirm password: <input type="password"/>	Get Community: public <input type="text"/>
	Set Community: public <input type="text"/>
	Trap Community: public <input type="text"/>

[Previous](#) [Next](#) [Cancel](#)

Wizard Step 3 – Networked AV

If choose Basic Settings

For default IP / VLAN environment

1 IP 2 Password 3 **Networked AV** 4 Summary

STEP

Basic Settings

Skip Networked AV Mode Settings

For better AVoIP performance, Management VLAN's IGMP snooping will be setup with the recommended setting, based on the following designated port arrangement.

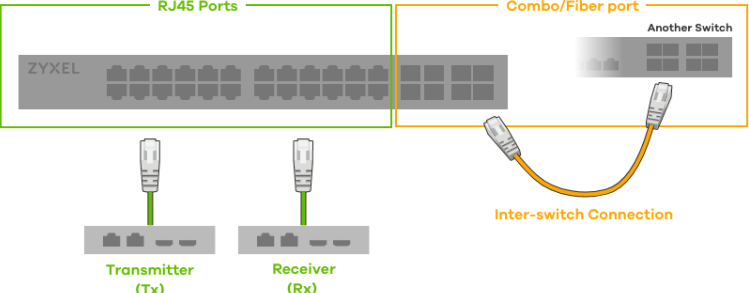


Diagram illustrating the designated port arrangement for Networked AV Mode Settings:

- RJ45 Ports:** Connected to Transmitter (Tx) and Receiver (Rx).
- Combo/Fiber port:** Connected to Another Switch via Inter-switch Connection.

Previous Next Cancel

If choose Advanced Settings

To create a dedicated AV VLAN in a mixed network
Do inter-switch link aggregation

1 IP 2 Password 3 **Networked AV** 4 Summary

STEP

Advanced Settings

Allocate networked AV service to a VLAN

Networked AV VLAN: 2

IP Address: 192.168.77.1 (Optional)

IP Subnet Mask: 255.255.255.0 (Optional)

Select Ports and Assign a Port Role ⓘ

Select all ports

2	4	6	8	10	12	14	16	18	20	22	24	26	28
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1	3	5	7	9	11	13	15	17	19	21	23	25	27

Tx/Rx Inter-switch Management Link aggregate

Previous Next Cancel

Wizard Step 4 - Summary

1 IP 2 Password 3 Networked AV **4 Summary**
STEP

Summary

Setup IP	Change administrator's password and activate SNMP	Networked AV - Basic Settings
Host Name: GS2220	New password:	Networked AV VLAN: 1
IP Interface: DHCP Client	SNMP: Enabled	Networked AV VLAN IP: 192.168.9.42
VID: 1	Version: v2c	IGMP Snooping: Active
IP Address: 192.168.9.42	Get Community: public	IGMP Snooping Querier: Active
IP Subnet Mask: 255.255.255.0	Set Community: public	Unknown Multicast Frame: Drop
Default Gateway: 192.168.9.1	Trap Community: public	Transmitter/Receiver Connected Port: 1-24
DNS Server: 192.168.9.1		Inter-switch Connected Port: 25-28

Previous **Finish** **Cancel**

Basic Setting

Recommended settings will automatically be applied to Switch with simple clicks.

Networked AV Dashboard

Networked AV mode give you an instantly view of the current status, with a condensed function menu to help you maintain and configure with ease.

Port and system status

GS2220-28HP Port Status



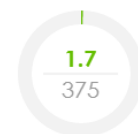
Networked AV status at a glance

Networked AV Information

[IP Setup](#)

IGMP-Snooping VLAN 1
IGMP-Snooping Active
Unknown Multicast Drop
IP Interface 172.21.56.67
IGMP-Querier Active

Power Usage(W)



Cloud Control Status

[More Detail](#)

ON
NCC Discovery



Link information for each port

Port	Port Name	Link Speed	Bandwidth Usage [Tx]	Bandwidth Usage [Rx]	IGMP Leave Mode
1	-	1G/F	0.0%	0.0%	immediate
2	-	-	0.0%	0.0%	immediate
3	-	-	0.0%	0.0%	immediate
4	-	1G/F	48.9%	48.9%	immediate
5	-	1G/F	48.9%	48.9%	immediate
6	-	-	0.0%	0.0%	immediate
7	-	-	0.0%	0.0%	immediate
8	-	-	0.0%	0.0%	immediate
9	-	-	0.0%	0.0%	immediate
10	-	-	0.0%	0.0%	immediate
11	-	-	0.0%	0.0%	immediate
12	-	-	0.0%	0.0%	immediate
13	-	-	0.0%	0.0%	immediate
14	-	-	0.0%	0.0%	immediate
15	-	-	0.0%	0.0%	immediate
16	-	-	0.0%	0.0%	immediate
17	-	-	0.0%	0.0%	immediate
18	-	-	0.0%	0.0%	immediate
19	-	-	0.0%	0.0%	immediate
20	-	-	0.0%	0.0%	immediate
21	-	-	0.0%	0.0%	immediate
22	-	-	0.0%	0.0%	immediate
23	-	-	0.0%	0.0%	immediate
24	-	-	0.0%	0.0%	immediate
25	-	-	0.0%	0.0%	immediate
26	-	-	0.0%	0.0%	immediate
27	-	-	0.0%	0.0%	immediate
28	-	-	0.0%	0.0%	immediate

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