

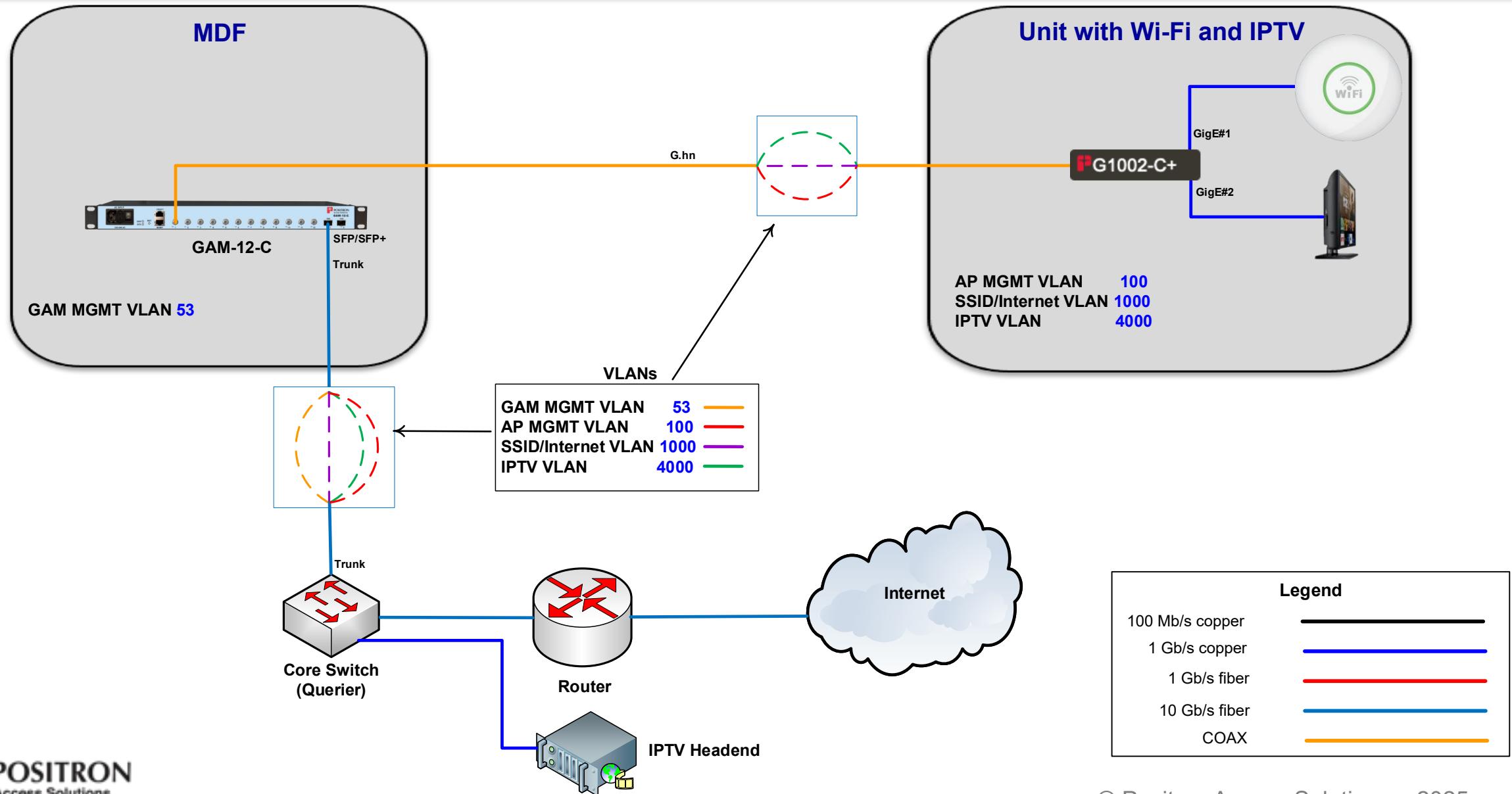


IGMP Settings

- **GAM-4-CX**
- **GAM-4-CRX**
- **GAM-12-C**
- **GAM-24-C**
- **GAM-4-MX**
- **GAM-8-MX**
- **GAM-8-MRX**
- **GAM-12-M**
- **GAM-24-M**



GAM – Standard Wi-Fi and IPTV Network Topology



GAM – IGMP Standard Configuration

Steps to configure IGMP snooping (IP Multicast Snooping)

1. Create IGMP Interface VLAN
2. Activate IGMP snooping
3. Activate snooping on IPTV VLAN
4. Setting QoS Parameters
5. Monitor Snooping and Multicast Groups

GAM – IGMP – Creating VLAN interface

Configuration→System→IP



- ▼ Configuration
 - System
 - Information
 - IP ←
 - NTP
 - Time
 - Time Zone
 - Log
 - Controller Announcement
 - Aggregation
 - DDMI
 - DHCP
 - EPS
 - ERPS
 - G.hn
 - IPMC
 - IPMC Profile
 - Link OAM
 - LLDP
 - MAC Table
 - MEP
 - Mirroring
 - MVR
 - Performance Monitor
 - Ports (Ethernet)
 - PTP
 - QoS
 - Security
 - sFlow
 - Spanning Tree
 - Traffic Test
- VLANs
 - Monitor
 - Diagnostics
 - Maintenance

GAM-12-C™ G.hn Access Multiplexer

IP Configuration

Domain Name	No Domain Name
DNS Server 0	Configured IPv4 or IPv6 172.1.53.1
DNS Server 1	No DNS server
DNS Server 2	No DNS server
DNS Server 3	No DNS server
DNS Proxy	<input type="checkbox"/>

IP Interfaces

Delete	VLAN	DHCPv4				Hostname	Fallback	Current Lease	IPv4		IPv6	
		Enable DHCPv4	Type	IMac	Client ID				Address	Mask Length	Address	Mask Length
<input type="checkbox"/>	1	<input type="checkbox"/>	Auto	Port G.hn-1	192.168.10.1	24						
<input type="checkbox"/>	53	<input type="checkbox"/>	Auto	Port G.hn-1	172.1.53.3	24						
<input type="checkbox"/>	4000	<input checked="" type="checkbox"/>	Auto	Port G.hn-1								

Add Interface

IP Routes

Delete	Network	Mask Length	Gateway	Next Hop VLAN
<input type="checkbox"/>	0.0.0.0	0	172.1.53.1	0

VLAN 53 In-band Management

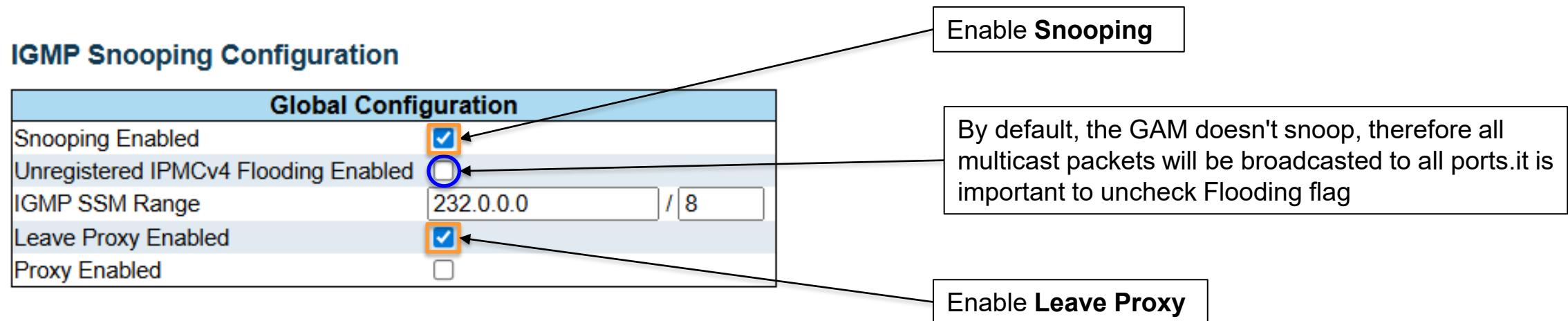
VLAN 4000 IPTV

No DHCP or static IP required for IPTV VLAN

Default Gateway required for In-band management with static IP address only

GAM – IGMP – Activating IGMP Snooping

Configuration→IPMC→IGMP Snooping→Basic Configuration



GAM – IGMP – Activating IGMP Snooping Cont.

Configuration → IPMC → IGMP Snooping → Basic Configuration

POSITRON Access Solutions

- Configuration
 - System
 - Aggregation
 - DDMI
 - DHCP
 - EPS
 - ERPS
 - G.hn
 - IPMC
 - IGMP Snooping
 - Basic Configuration
 - M&N Configuration
 - Port Filtering Profile
 - MLD Snooping
 - IPMC Profile
 - Link OAM
 - LLDP
 - MAC Table
 - MEP
 - Mirroring
 - MVR
 - Performance Monitor
 - Ports (Ethernet)
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 - QoS
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- GAM-12-C™ G.hn Access Multiplexer**
- IGMP Snooping Configuration**
- Global Configuration**

Snooping Enabled	<input checked="" type="checkbox"/>
Unregistered IPMCv4 Flooding Enabled	<input type="checkbox"/>
IGMP SSM Range	232.0.0.0 / 8
Leave Proxy Enabled	<input checked="" type="checkbox"/>
Proxy Enabled	<input type="checkbox"/>
- Port Related Configuration**

Port	Router Port	Fast Leave	Throttling
*	<input type="checkbox"/>	<input type="checkbox"/>	<>
G.hn-1	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-2	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-3	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-4	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-5	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-6	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-7	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-8	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-9	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-10	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-11	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
G.hn-12	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
10G-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	unlimited
10G-2	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
MGMT	<input type="checkbox"/>	<input type="checkbox"/>	unlimited
- Specify which ports of the GAM act as router ports. A router port is a port that leads towards the Layer 3 multicast device or IGMP querier.**
- Apply** **Reset**
- Click on Apply button**

GAM – IGMP – Activating IGMP on IPTV VLAN

Configuration → IPMC → IGMP Snooping → VLAN Configuration



- ▼ Configuration
 - ▶ System
 - ▶ Aggregation
 - DDMI
 - ▶ DHCP
 - EPS
 - ERPS
 - ▶ G.hn
 - ▼ IPMC
 - ▶ IGMP Snooping
 - Basic Configuration
 - VLAN Configuration
 - Port Filtering Profile
 - ▶ MLD Snooping
 - ▶ IPMC Profile
 - ▶ Link OAM
 - ▶ LLDP
 - MAC Table
 - MEP
 - Mirroring
 - MVR
 - ▶ Performance Monitor
 - Ports (Ethernet)
 - PTP
 - ▶ QoS
 - ▶ Security
 - sFlow
 - ▶ Spanning Tree
 - ▶ Traffic Test
 - ▶ VLANs
 - ▶ Monitor
 - ▶ Diagnostics
 - ▶ Maintenance

GAM-12-C™ G.hn Access Multiplexer

IGMP Snooping VLAN Configuration

Start from VLAN 1 with 20 entries per page.

VLAN ID	Snooping Enabled	Querier Election	Querier Address	Compatibility	PRI	RV	QI (sec)	QRI (0.1 sec)	LLQI (0.1 sec)	URI (sec)
1	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	IGMP-Auto	0	2	125	100	10	1
2	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	IGMP-Auto	0	2	125	100	10	1
53	<input type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	IGMP-Auto	0	2	125	100	10	1
4000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.0.0.0	IGMP-Auto	5	2	125	100	10	1

Enable Snooping on IPTV VLAN only

Click on Apply button

Set Priority 5 to IPTV VLAN

The GAM should not be the querier (this option shall be disabled). Most of the time the querier is at the video source side

GAM – IGMP – Settings QoS Parameters

Configuration→QoS→QoS Control List

POSITRON Access Solutions

GAM-12-C™ G.hn Access Multiplexer

QoS Control List Configuration

QCE	Port	DMAC	SMAC	Tag Type	VID	PCP	DEI	Frame Type	Action						
									CoS	DPL	DSCP	PCP	DEI	Policy	
1	1-12,10G-1,10G-2,MGMT	Any	Any	Any	2	Any	Any	Any	3	Default	Default	7	0	Default	

Add QCE to end of list

Click here to set a new QoS Control Entry.

QoS Control List Configuration

- System
- Aggregation
- DDMI
- DHCP
- EPS
- ERPS
- G.hn
- IPMC
- IPMC Profile
- Link OAM
- LLDP
- MAC Table
- MEP
- Mirroring
- MVR
- Performance Monitor
- Ports (Ethernet)
- PTP
- QoS
 - Tag Classification Map
 - Port Policing
 - Port Scheduler
 - Port Shaping
 - QoS Control List 
 - Storm Policing
- Security
- sFlow
- Spanning Tree
- Traffic Test
- VLANs
- Monitor
- Diagnostics
- Maintenance

GAM – IGMP – Settings QoS Parameters Cont.

Configuration→QoS→QoS Control List

Configuration→QoS→QoS Control List

GAM-12-C™ G.hn Access Multiplexer

QCE Configuration

Port Members

G.hn-1	G.hn-2	G.hn-3	G.hn-4	G.hn-5	G.hn-6	G.hn-7	G.hn-8	G.hn-9	G.hn-10	G.hn-11	G.hn-12	10G-1	10G-2	MGMT
<input checked="" type="checkbox"/>	<input type="checkbox"/>													

Uncheck MGMT Port

Key Parameters

DMAC	Any	
SMAC	Any	
Tag	Any	
VID	Specific	Value: 4000
PCP	Any	
DEI	Any	
Inner Tag	Any	
Inner VID	Any	
Inner PCP	Any	
Inner DEI	Any	
Frame Type	Any	

Action Parameters

CoS	2
DPL	Default
DSCP	Default
PCP	5
DEI	0
Policy	

Set CoS to 2

Set PCP to 5

Set DEI to 0

Set VID option to Specific and type the IPTV VLAN ID on Value field

Click on Apply button

Apply

GAM – IGMP – Monitoring Snooping and Multicast Groups

Monitor→IPMC→IGMP Snooping→Status

IGMP Snooping Status

Statistics

VLAN ID	Querier Version	Host Version	Querier Status	Active Querier Address	Queries Transmitted	Queries Received	V1 Reports Received	V2 Reports Received	V3 Reports Received	V2 Leaves Received
4000	v2	v2	IDLE	192.168.200.10	7866	6369	0	51619	9	989

IGMP Querier

Monitor→IPMC→IGMP Snooping→Group Information

IGMP Snooping Group Information

Start from VLAN and group address with entries per page.

Multicast TV Channels

VLAN ID	Groups	Port Members												CPE		
		1	2	3	4	5	6	7	8	9	10	11	12	10G-1	10G-2	
4000	224.0.0.251								✓					✓		
4000	224.0.0.252								✓					✓		
4000	239.252.1.240								✓					✓		
4000	239.255.1.240								✓					✓		
4000	239.255.255.250								✓					✓		