GARLAND
T E C H N O L O G Y
See every bit, byte, and packet®

This portable network TAP series is ideal for 100/1000MB copper or fiber network monitoring. The innovative design allows these TAPs to be easily installed into any copper or fiber 100/1000 network segment.

Once installed in your network the 100/1000 network TAP will enable you to monitor your network segments quickly and effectively using a network analyzer, security devices, or any monitoring tool. This 100/1000 copper TAP allows you to capture full-duplex traffic without dropping any packets or SPAN input traffic to be replicated to up to 3 monitor ports.
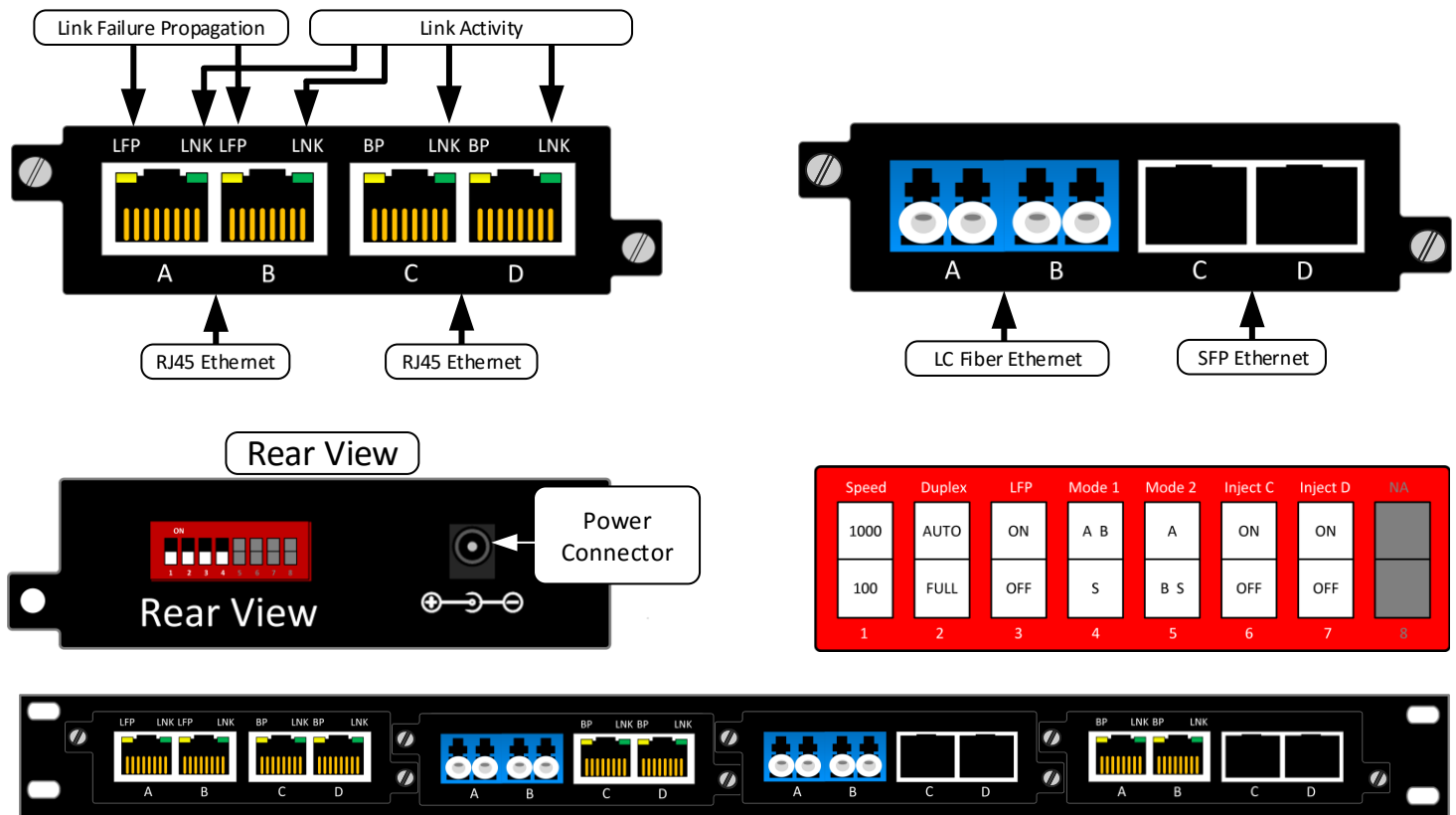
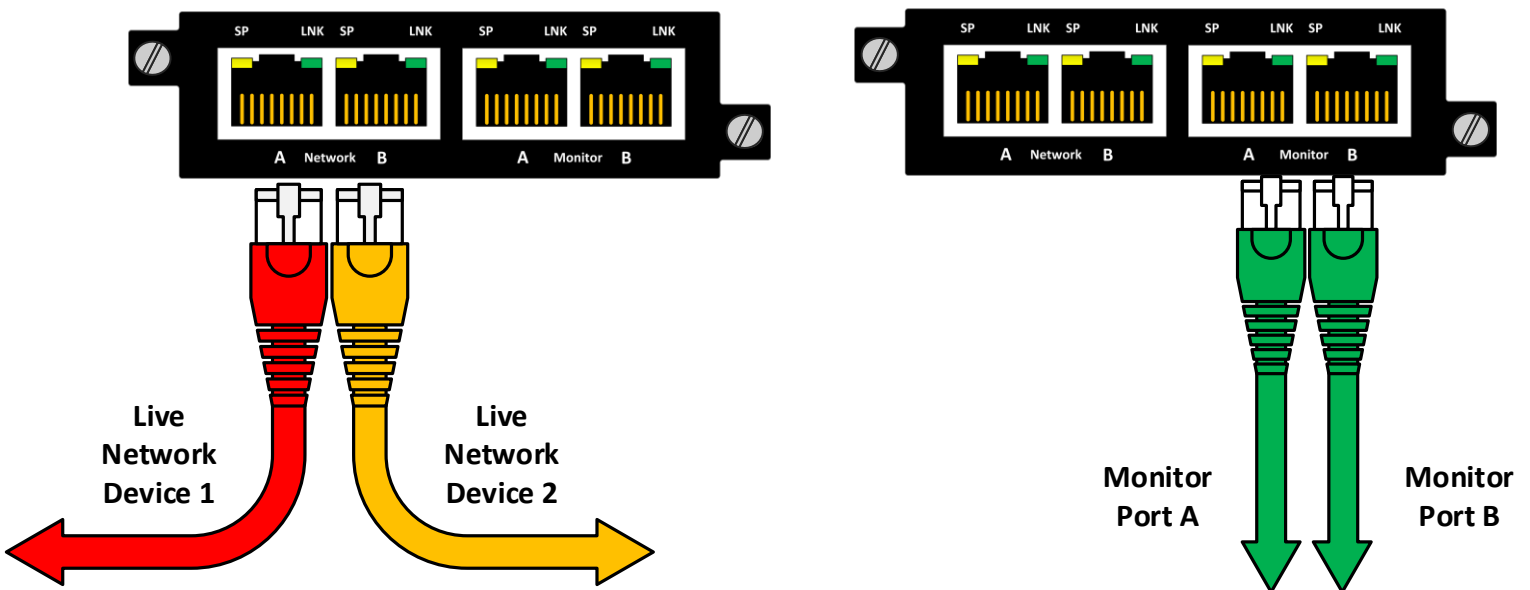
Portable TAP Key Features

- Supports Breakout, Aggregation and SPAN Modes
- Connectivity to copper or fiber ports
- Plug-n-Play design with zero configuration
- Packet Injection: allows monitor ports to Inject packets back into the live network flow
- Jumbo Frames
- Passes physical layer errors
- Supports Link Failure Propagation (LFP)

- Supports FailSafe.
- Captures Full Duplex Traffic up to 2 Gigabits without dropping any packets
- Small portable form factor: 3.9"x1.15"x6.53" (W x H x D)
- Rack Shelf or Plate supports up to four (4) TAPs in a 1U space

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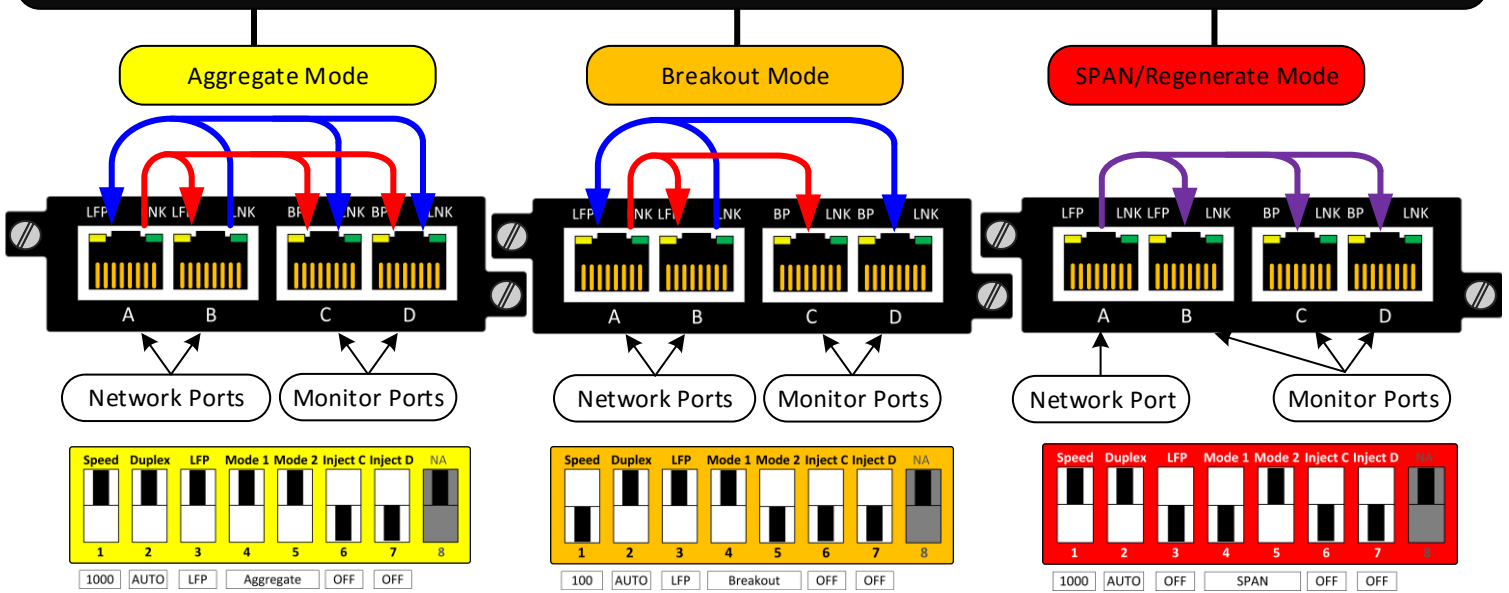# To deploy the P1GxxA Portable Tap into your network, simply:

- Unpack the device and attach it to an optional rack mount bracket (sold separately)

- Install the P1GxxA assembly into any available 1U slot of a network rack and secure it with rack mount screws.

- Utilizing the DIP switches (located on the reverse side of the unit, next to the power input) configure the P1GxxA for the operating mode of your choice (see next page)Install network TAP into the live network. THIS STEP NEEDS TO BE DONE WITH NO POWER CONNECTED TO THE TAP

- Using standard Ethernet cables, connect ports [**A**] and [**B**] (Auto MDIX) of the P1GxxA between the two live network devices where monitoring is desired. Verify network traffic is flowing, confirming that network cabling is correct.

- Connect ports [**C**] and [**D**] (Auto MDIX) to the monitoring tools for traditional traffic monitoring (SPAN mode may also be used for regenerating outputs)

- Connect the power supply to the P1GxxA and plug it in to an available power source

- **Note:** Other operating modes are available for monitoring and may be configured using the provided DIP switches. Using SPAN or regeneration mode on fiber models may require both [**A**] and [**B**] ports to be connected to obtain link on port [**A**] or [**B**]. "BP" LED serves no purpose on this model

- Anytime the configuration switches are changed the user must remove and then apply power for the changes to take effect.
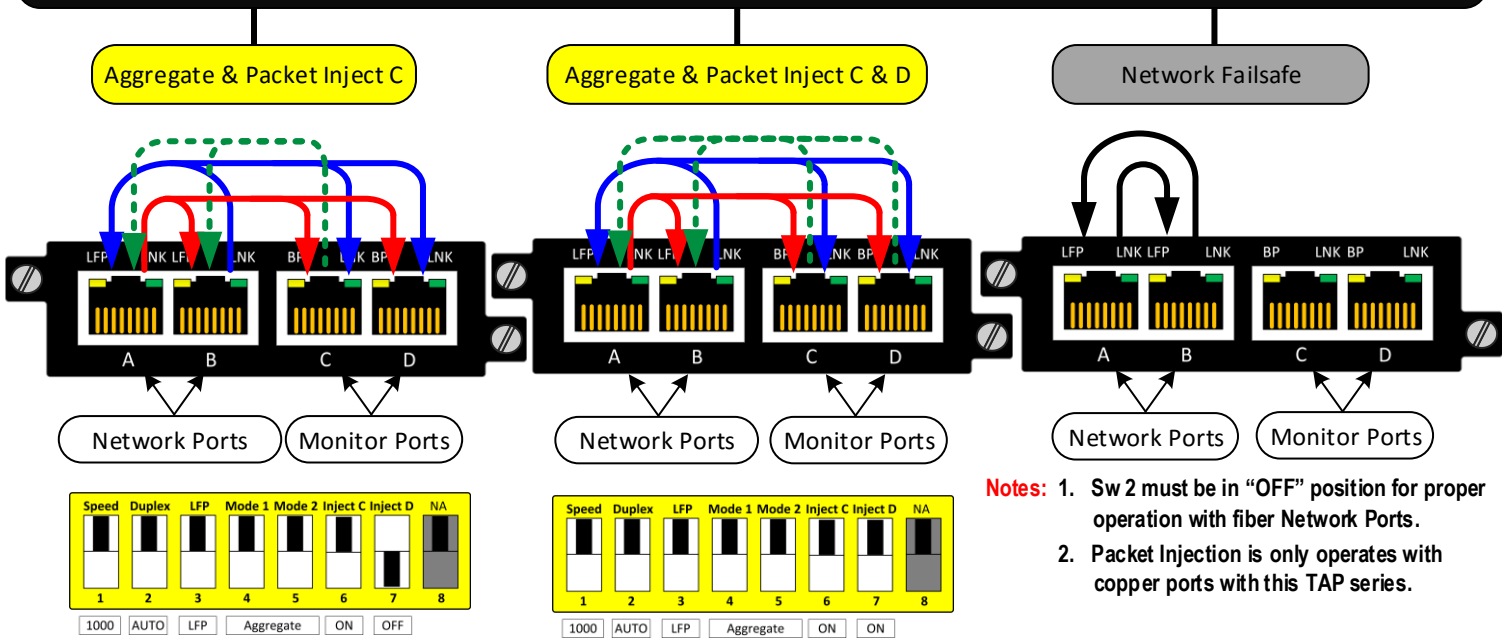
Network Cabling:

Live Network Device 1

Live Network Device 2

Monitor Port A

Monitor Port B

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Configuration Examples

P1GxxA Portable TAP Operating Modes

Aggregate Mode

LFP | NK LFP | LNK | BP | NK BP | LNK

A | B | C | D

Network Ports | Monitor Ports

Speed	Duplex	LFP	Mode 1	Mode 2	Inject C	Inject D	NA
1	2	3	4	5	6	7	8
1000	AUTO	LFP	Aggregate		OFF	OFF	

Breakout Mode

LFP | NK LFP | LNK | BP | LNK BP | LNK

A | B | C | D

Network Ports | Monitor Ports

Speed	Duplex	LFP	Mode 1	Mode 2	Inject C	Inject D	NA
1	2	3	4	5	6	7	8
100	AUTO	LFP	Breakout		OFF	OFF	

SPAN/Regenerate Mode

LFP | LNK LFP | LNK | BP | LNK BP | LNK

A | B | C | D

Network Port | Monitor Ports

Speed	Duplex	LFP	Mode 1	Mode 2	Inject C	Inject D	NA
1	2	3	4	5	6	7	9
1000	AUTO	OFF	SPAN		OFF	OFF	

P1GxxA Portable TAP Operating Modes

Aggregate & Packet Inject C

LFP | NK LFP | LNK | BP | LNK BP | LNK

A | B | C | D

Network Ports | Monitor Ports

Speed	Duplex	LFP	Mode 1	Mode 2	Inject C	Inject D	NA
1	2	3	4	5	6	7	8
1000	AUTO	LFP	Aggregate		ON	OFF	

Aggregate & Packet Inject C & D

LFP | NK LFP | LNK | BP | NK BP | LNK

A | B | C | D

Network Ports | Monitor Ports

Speed	Duplex	LFP	Mode 1	Mode 2	Inject C	Inject D	NA
1	2	3	4	5	6	7	8
1000	AUTO	LFP	Aggregate		ON	ON	

Network Failsafe

LFP | LNK LFP | LNK | BP | LNK BP | LNK

A | B | C | D

Network Ports | Monitor Ports

Notes: 1. Sw 2 must be in "OFF" position for proper operation with fiber Network Ports.

2. Packet Injection is only operates with copper ports with this TAP series.

Black indicates the position of the switch, UP is on and DOWN is off

Speed	Duplex	LFP	Mode 1	Mode 2	Inject C	Inject D	NA
1000	AUTO	ON	A B	A	ON	ON	
100	FULL	OFF	S	B S	OFF	OFF	
1	2	3	4	5	6	7	8

AGG or **A** (Aggregation): Combines data flows.
BRE or **B** (Breakout): Separates data flows.
BP (Bypass): Supported on P1GxxBP models.
LFP (Link Failure Propagation): Allows link state to be mirrored to adjacent live network interfaces.
LNK (Link/Activity): Solid when link is achieved and flashes when data is received on an interface.
PI (Packet Injection): Allows monitor ports to inject data back into the live network flows.
SPAN or **S** or **Regenerate**: Allows users to multiply one or more inputs into many outputs.

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Definitions:

- **1G, 100M Speed Mode:** Switch position 1, **ON** equals 1000Mbps, **OFF** equals 100Mbps.

- **Duplex:**   <u>AUTO</u> setting (Sw 2 in ON position is default for Copper Network Ports) lets the port negotiate the duplex mode with the link pair (For Fiber Network Ports Sw 2 must be in the OFF position for proper operation).

    <u>FULL</u> setting (Sw 2 in OFF position) forces the link to full duplex mode

- **Link Failure Propagation (LFP):**   Switch position 3, used mostly for HA designed networks. It can sense a network failure and reflect the failure to the adjacent port of the live network allowing the network's failover mechanism to switch over to the secondary network path.

- **Bypass Mode:**

- **Breakout Mode:** An operating mode that allows monitoring of separate traffic streams, one for each direction of network traffic.

- **Aggregation Mode:** An operating mode that allows monitoring the A&B traffic onto one monitoring port.

- **SPAN Mode:** An operating mode that allows traffic from one or more SPAN outputs of a Switch or Router to be sent out to one or more monitoring ports.

- **Packet Injection:**

- **Failsafe:** On power loss, the live network TAP ports re-establish link with each other (per IEEE specification, resuming traffic flow between critical network devices.

Ordering Information:

P1GCCA	Portable 100/1000M TAP: Two (2) Copper 100/1000M RJ-45 TAP Ports with two (2) Copper RJ-45 Monitoring Ports, single Power Supply, supports Breakout Mode, Aggregation Mode, and SPAN Mode.
P1GCSA	Portable 100/1000M TAP: Two (2) Copper 100/1000M RJ-45 TAP Ports with two (2) SFP Monitoring Ports, single Power Supply, supports Breakout Mode, Aggregation Mode, and SPAN Mode.
P1GMCA	Portable 100/1000M TAP: Two (2) Multi-mode Passive Fiber LC TAP Ports with two (2) Copper RJ-45 Monitoring Ports, single Power Supply, supports Breakout Mode, Aggregation Mode, and SPAN Mode.
P1GMSA	Portable 100/1000M TAP: Two (2) Multi-mode Passive Fiber LC TAP Ports with two (2) SFP Monitoring Ports, single Power Supply, supports Breakout Mode, Aggregation Mode, and SPAN Mode.
P1GSCA	Portable 100/1000M TAP: Two (2) Single-mode Passive Fiber LC TAP Ports with two (2) Copper RJ-45 Monitoring Ports, single Power Supply, supports Breakout Mode, Aggregation Mode, and SPAN Mode.
P1GSSA	Portable 100/1000M TAP: Two (2) Single-mode Passive Fiber LC TAP Ports with two (2) SFP Monitoring Ports, single Power Supply, supports Breakout Mode, Aggregation Mode, and SPAN Mode.
RMP-1U	Rack Mount Plate: 1U holds up to four (4) Portable TAPs
RMS-1U	Rack Mount Shelf: 1U holds up to four (4) Portable TAPs