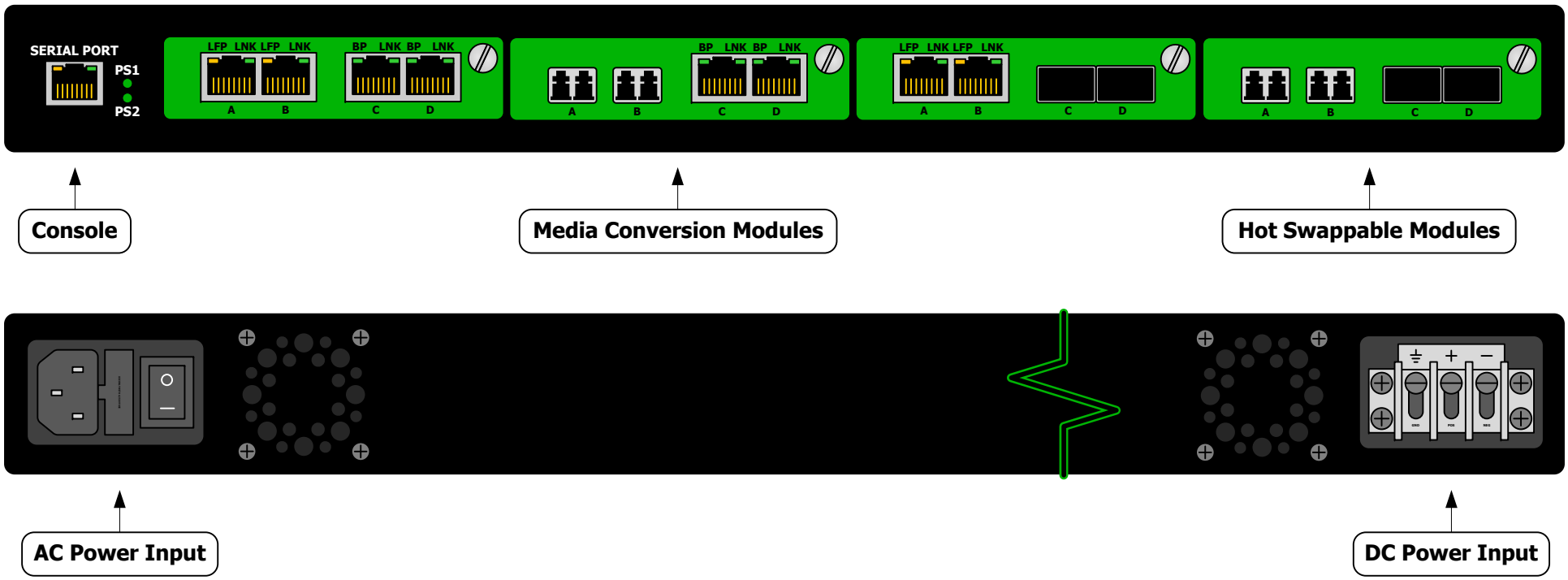
M1Gxxxx Series Modular Tap
Installation Guide

To deploy the M1Gxxxx modular tap system into your network, simply:

- Carefully unpack and inspect the tap modules and system chassis
- Insert and fully seat the M1Gxxxx modules into the M1GxxxxS chassis and secure each module thumbscrew
- Install the tap and chassis assembly into any available 1U slot of a network rack and secure it with rack mount screws
- Connect the power supply to the M1Gxxxx and plug it into an available power source
- Utilizing the Console or DIP switches, configure the M1Gxxxx for the operating mode of your choice
- Remove the power supply to the M1Gxxxx chassis temporarily
- Using standard Ethernet cables, connect ports [**A**] and [**B**] (Auto MDI/MDIX) of the M1Gxxxx between the two live network devices where you would otherwise deploy an inline appliance or sensor (for example: IPS or DLP). Verify network traffic is flowing, confirming that network cabling is correct
- Connect ports [**C**] and [**D**] (Auto MDI/MDIX) to the inline IPS/DLP appliance or other tools for traditional breakout or aggregated traffic monitoring
- Connect the power leads to the M1Gxxxx chassis power supplies and plug it into an available power source. Turn on the chassis power switches.
- **Note**: Fiber is always 1000Mbps speed. Other operating modes may be desired for monitoring and may be configured using the console menu



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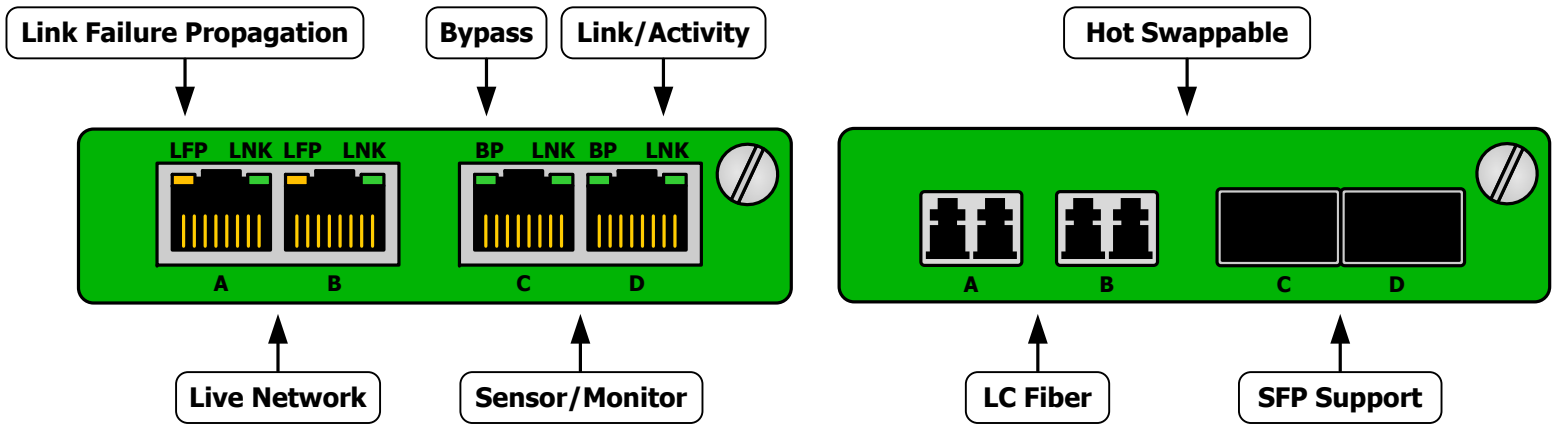

LFP or **Link Failure Propagation**: Allows link state to be mirrored to adjacent live network interfaces. When one side of a network loses link on a connecting tap, the link state is propagated to the other interface of the tap and ultimately to the other side of the network. Enabled by default.
LNK or **Link/Activity**: Solid when link is achieved and flashes when data is detected on an interface.
BP or **Bypass**: A mode that allows active temporary bypass of an inline appliance or sensor type IPS/DLP device. Bypass is based on the operating characteristics of the connected network appliance. When a bypass tap device is not able to detect link or heartbeats from (or through) inline appliance or sensor connecting to the C and D sensor port pair, the appliance is bypassed automatically, keeping link up and networks online and passing data.
Aggregation: Combines data flows for full-duplex monitoring on a single interface. Ideal when monitoring both sides of network traffic simultaneously.
Breakout: Separates data flows for half-duplex directional monitoring. Ideal when utilization is very high and packet loss is not an option.
SPAN or **Regenerate**: Allows users to multiply one or more inputs into many outputs. BP LED's are not used while this mode is configured.
FailSafe: On power loss, live network tap ports re-establish link with each other, resuming traffic flow between critical network devices. Always on.
Sticky: If the primary sensor has been bypassed and the secondary is currently active, secondary will remain active even when the primary comes back online. If the secondary appliance goes offline, the primary will be used if it has link and is passing traffic in both directions. Disabled by default.
Reverse Bypass: Disables link on both live network ports if all inline appliances lose link or cannot pass traffic. Disabled by default.
Packet Injection or **PI**: Allows monitor ports to inject Ethernet frames back into the live network flows.

GARLAND TECHNOLOGY

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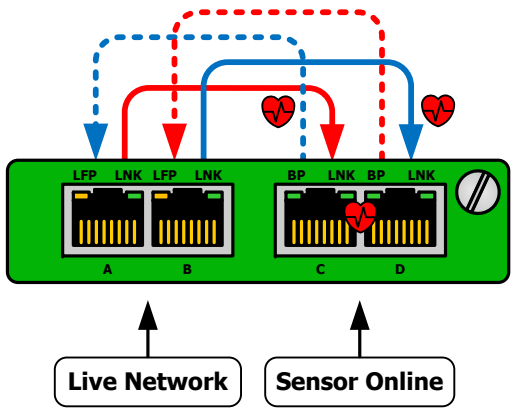
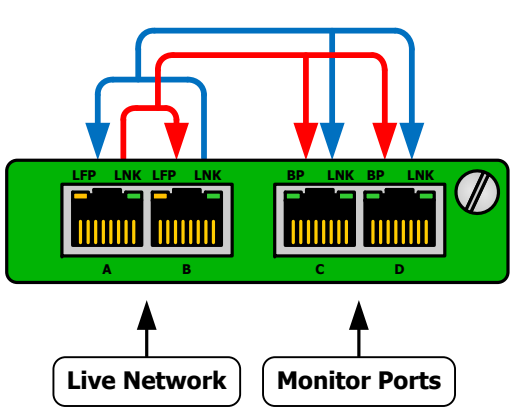
M1Gxxxx Tap Module Operating Modes

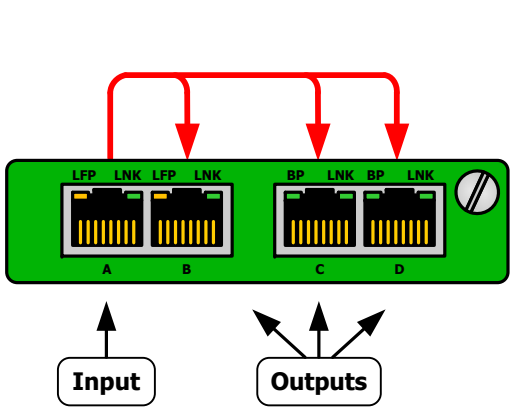
Bypass (auto)



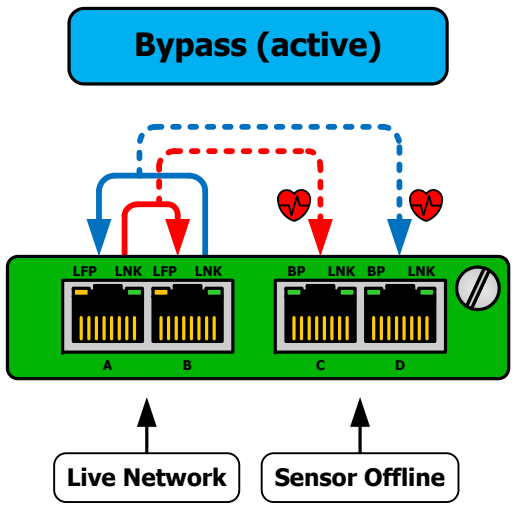
Aggregate



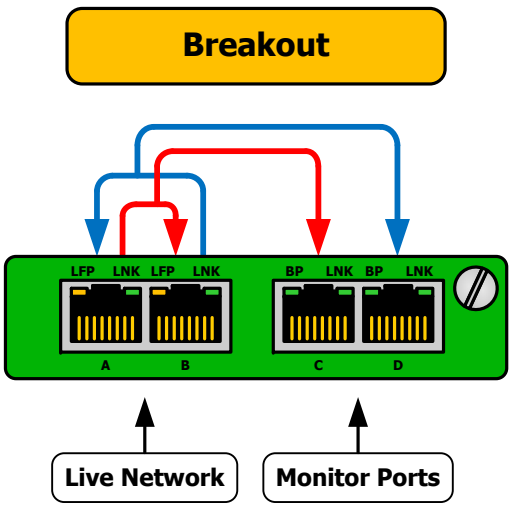
SPAN Regenerate



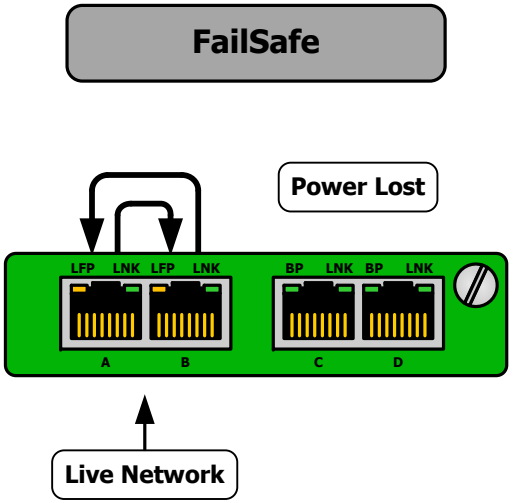
Bypass (active)



Breakout



FailSafe



Bypass Mode Detail

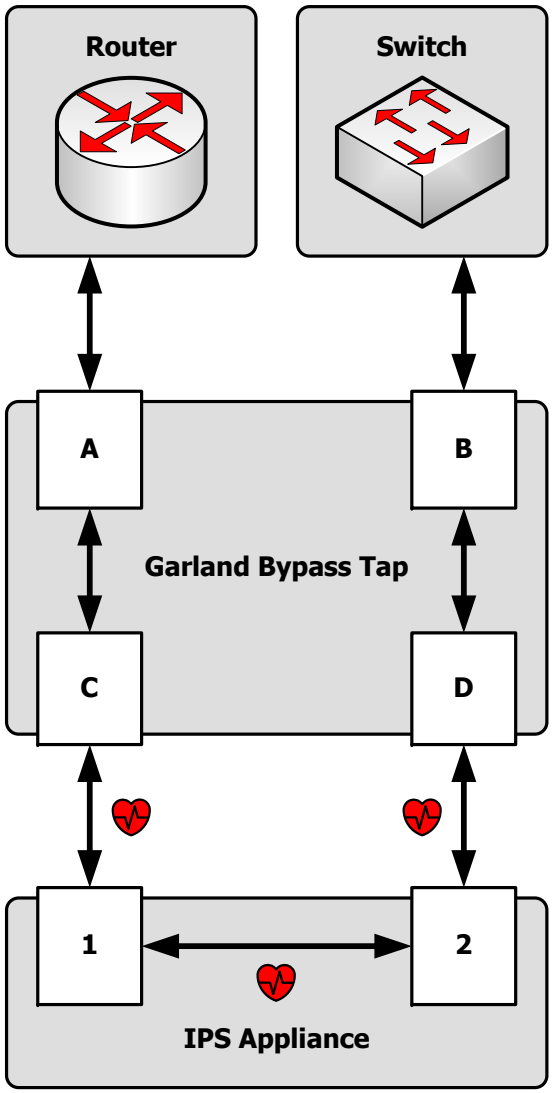


Figure 1: Normal Operation (IPS Online)
All Data Passes Through Sensor Inline

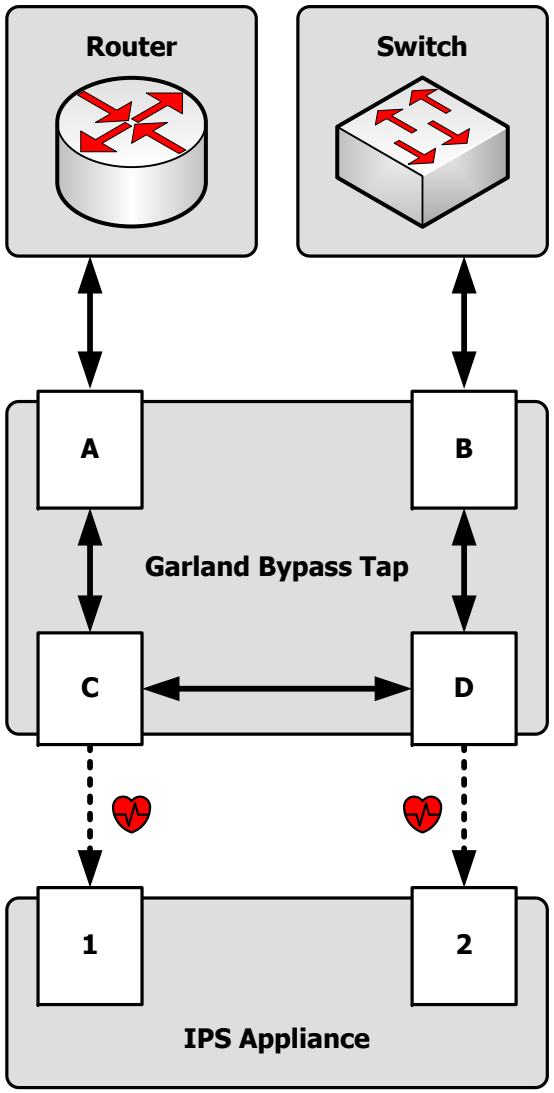


Figure 2: Active Bypass (IPS Offline)
Data and Heartbeats Copied to Sensor

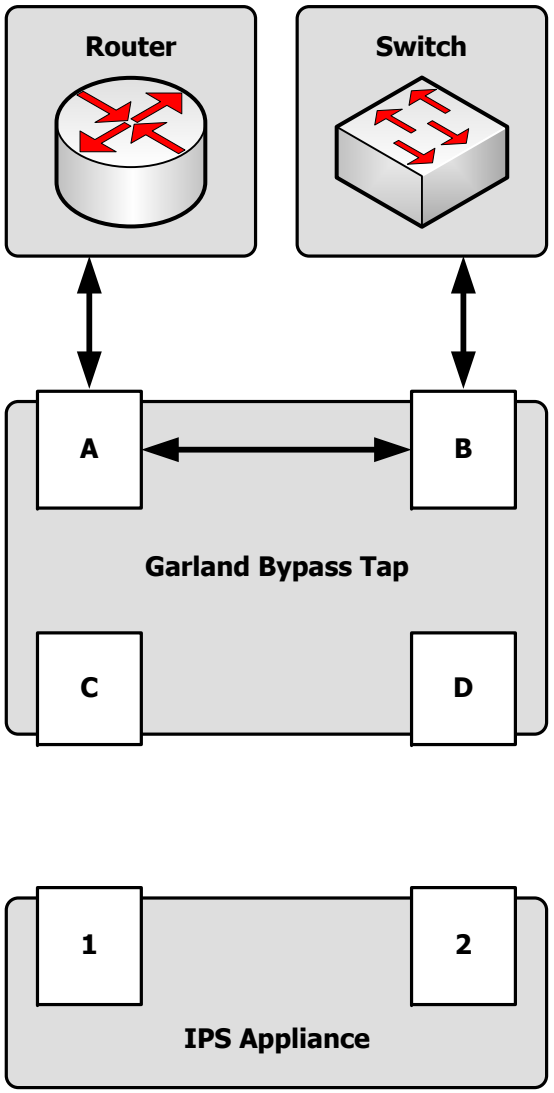


Figure 3: Passive Bypass (Power Failure)
Network Interfaces Renegotiate Resuming Flow

M1Gxxxx Tap System Configuration Menus

```
Console Settings

Baud Rate:     19200
Data Bits:     8
Stop Bits:     1
Parity:        None
Flow Control:  None
Login:         admin | gtadmin1
Interface:     Menu Driven
```

```
Main Menu

Select:

1. View System
2. Change/View Module Configuration
3. Change Username/Password
0. Logout
```

```
[3] Username/Password

Select:

1. Change Username
2. Change Password

0. Return and Apply
```

```
[1] View System

Garland Technology 1U Chassis Model: M1G1ACS   (Code Version 1.01)
Chassis Serial Number: 2099-#######

Power Supply 1: Up
Power Supply 2: Up

                    #: Module Type
                       Operating Mode (Current State)
-------------------------------------------------------------------------------
 1:  M1GCCBP        2:  M1GSCBP        3:  M1GCCBP        4:  M1GCCBP
     Bypass(Inline)     Bypass(Bypass)     Bypass(Forced)     Aggregate Mode

 Press any key to return to Main Menu
```

```
[2] Change/View Module Configuration

                    Select slot number to view/modify

                    #: Module Type
                       Operating Mode (Current State)
-------------------------------------------------------------------------------
 1:  M1GCCBP        2:  M1GSCBP        3:  M1GCCBP        4:  M1GCCBP
     Bypass(Inline)     Bypass(Bypass)     Bypass(Forced)     Aggregate Mode

Press
1: Select Slot 1
2: Select Slot 2
3: Select Slot 3
4: Select Slot 4
0. Exit
```

(next page)

M1Gxxxx Tap System Configuration Menus

```
Select slot number to view/modify

Press
1: Select Slot 1
2: Select Slot 2
3: Select Slot 3
4: Select Slot 4
0. Exit
```

```
=========================
Slot # Status:
=========================
Current Bypass Status: Inline

            Port A    Port B    Port C    Port D
Link State: Up        Up        Up        Up
Duplex:     Auto      Auto      Auto      Auto
Media Type: RJ45      RJ45      RJ45      RJ45
Serial Number == 2071-#######

=========================           =========================
Bypass Options                      Aggregate Options
=========================           =========================
Press                               Press
1: Set Operating Mode (Bypass)      1: Set Operating Mode (Aggregate)
2: Set Speed Mode (1G)              2: Set Speed Mode (1G)
3: Set LFP Mode (ON)                3: Set LFP Mode (ON)
4: Set Duplex Mode                  4: Set Duplex Mode
5: Set Reverse Bypass Mode (OFF)    7: Set Packet Injection Port C (OFF)
6: Set Forced Bypass Mode (OFF)     8: Set Packet Injection Port D (OFF)
a: Restore Defaults                 9: Setup Packet Slicing (OFF)
0. Exit                             a: Restore Defaults
                                    0. Exit
```