



GARLAND

T E C H N O L O G Y

2014 Product Catalog

***See Every
Bit,
Byte,
and Packet™***



Buffalo, NY - Richardson, TX



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Chris Bihary, CEO and Co-Founder

Chris has been connecting companies and their data for over 15 years. He began helping companies to access their networks in the early 2000's and his designs are still working in well over 500+ worldwide firms. He has an obsession for figuring out the simplest solution for the most difficult network access problems and has working relationships with Cisco, ForeScout, HP AllianceOne, Imperva, Palo Alto Networks, Riverbed and Sourcefire now a part of Cisco. Chris and these partners have collaborated to design networks for mutual clients. Chris is often asked why he is in the business of "Test Access Point" (TAPS) technology; his answer is always the same. "Businesses need simple solutions to complicated network access problems. I have a knowledge base that can help them connect to their network. The right technology for my clients is just a quick sketch away - I have an obsession for "connecting" clients with the right design no matter what application they have chosen so they can focus on their business, not their network."

Jerry Dillard, CTO and Co-Founder

Jerry has been developing engineering solutions for over 20 years. He is a pure engineer. Jerry designs products that solve network access problems. He designs Garland Technology products in a way that they do not introduce additional problems into your network. His career started after he graduated from the University of Alabama. His solid background in network engineering helped General Dynamics and Lockheed Martin Tactical Aircraft Systems drive network systems. Jerry went on to start a company that not only sold directly to end clients but also provided products in the network area as an OEM. Jerry's products were so well respected that other companies put their name on his products. As the CTO of Garland Technology he is a driving force in making Garland Technology the 100 Percent company – "100% in customer satisfaction, 100% in employee satisfaction, 100% in product reliability and network visibility. When you place a Garland Technology product in your network we are 100% sure you will be happy with your decision."

Why We Do What We Do

Garland Technology is all about connections – connecting your network to your appliance, connecting your data to your IT team, and reconnecting you to your core business. Choose from a full line of access products: network TAPS that support aggregation, regeneration, bypass, and breakout modes, packet brokering products, as well as cables and pluggables. Avoid introducing additional software, points of failure, and bulk into your network with Garland products; these hardware solutions let you see every bit, byte, and packet.

Not an expert in TAP technology and network connectivity? That's all right – Garland's design and education-based approach will take you from square one to network design specialist. Garland will also work with your vendor of choice in the solution areas covering Network Analyzers, Intrusion Detection, Intrusion Prevention Systems, Bandwidth Management, Computer Forensics, Data Capture, Content Filtering, Data Leakage Prevention, and Lawful Interception. Your Garland Technology network designer will work directly with you and your team to meet your needs with these vendors and provide you with the best solution.



Garland Portable Solutions

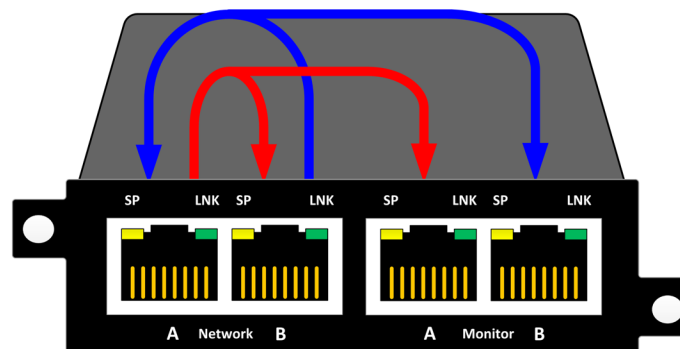
Portable TAPs are a great solution for monitoring your computer networks. The portable line is ideal for remote sites and is easy to install into any network segment. Let Garland provide you the access you need for your network monitoring tools, security devices, and analyzers.

Key Benefits to Portable TAPs

- Copper TAP to Copper Monitoring Ports
- Supports Breakout TAP Mode
- Passes physical layer errors
- Easy to configure with switches on back!
- Small and Portable
- Rack shelf supports up to 4 TAPs/1U
- P1GCCB only: Link Speed Sync
- Supports Jumbo Frames

Product Details

Model #	Media		Modes				Network Speed
	Network	Monitor	Breakout	Aggregation	Regenerating/SPAN	Bypass	
PT100	Copper	Copper	✓				10/100M
P100CCA	Copper	Copper	✓	✓			10/100M
P1GCCB	Copper	Copper	✓				10/100/1000M



Capture full duplex traffic with zero- and low-power copper TAPs. Portable TAPs are perfect for performance monitoring and troubleshooting.



10/100 Megabit
10/100/1000 Megabit
1 Gigabit
Copper

PT100



Portable 10/100M Passive TAP
Single Power Supply
Passes Datalink Layer Errors

P100CCA



Portable 100M Aggregation Passive
TAP
2 Aggregation 1Gigabit Ports
Single External Power Supply
Passes Datalink Errors

P1GCCB



Portable 10/100/1000M Breakout TAP
2 Copper RJ-45 Tap Ports
2 Copper RJ-45 Monitoring Ports
Link Speed Synchronization
Passes data-link layer errors



Portable Network TAPs

Garland Portable TAP Solutions

Portable TAPs are a great solution for monitoring your computer networks. The portable line is ideal for remote sites and is easy to install into any network segment. Let Garland provide you the access you need for your network monitoring tools, security devices, and analyzers.

Key Benefits to Portable TAPs

- Copper or Fiber TAP ports
- Copper, Fiber, or SFP monitoring ports
- Support Breakout, Aggregation, Regenerating, Span, and Bypass modes
- Support Jumbo Frames
- Packet Injection in select models
- Small and Portable

Product Details

Model #	Media		Modes				Packet Injection Support	Network Speed
	Network	Monitor	Breakout	Aggregation	Regeneration/SPAN	Bypass		
P1GCCA	Copper	Copper	✓	✓	✓		✓	100/1000M
P1GCSA	Copper	SFP	✓	✓	✓		✓	100/1000M
P1GMCA	MM Fiber	Copper	✓	✓	✓			1000M
P1GMSA	MM Fiber	SFP	✓	✓	✓			1000M
P1GSCA	SM Fiber	Copper	✓	✓	✓			1000M
P1GSSA	SM Fiber	SFP	✓	✓	✓			1000M
P1GCCBP	Copper	Copper	✓	✓	✓	✓	✓	100/1000M
P1GCSBP	Copper	SFP	✓	✓	✓	✓	✓	100/1000M
P1GMCBP	MM Fiber	Copper	✓	✓	✓	✓	✓	1000M
P1GMSBP	MM Fiber	SFP	✓	✓	✓	✓	✓	1000M
P1GSCBP	SM Fiber	Copper	✓	✓	✓	✓	✓	1000M
P1GSSBP	SM Fiber	SFP	✓	✓	✓	✓	✓	1000M

10/100/1000 Megabit

1 Gigabit

Copper

P1GCCA



Portable 100/1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

P1GCSA



Portable 1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

P1GMCA



Portable 1000M Aggregation TAP
2 Multi-Mode Passive Fiber LC Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

P1GMSA



Portable 1000M Aggregation TAP
2 Multi-Mode Passive Fiber LC Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

P1GSCA



Portable 1000M Aggregation TAP
2 Single-Mode Passive Fiber LC Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

P1GSSA



Portable 1000M Aggregation TAP
2 Single-Mode Passive Fiber LC Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

P1GCCBP



Portable 100/1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

P1GCSBP



Portable 100/1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

P1GMCBP



Portable 1000M Aggregation TAP
2 Multi-Mode Passive Fiber Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

P1GMSBP



Portable 1000M Aggregation TAP
2 Multi-Mode Passive Fiber Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

P1GSCBP



Portable 1000M Aggregation TAP
2 Single-Mode Passive Fiber Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

P1GSSBP



Portable 1000M Aggregation TAP
2 Single-Mode Passive Fiber Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

Passive Fiber Single TAPs



10/100/1000 Megabit,
1 Gigabit, 10 Gigabit,
40 Gigabit, 100 Gigabit



Single- and Multi-Mode Fiber TAPs

Our line of passive fiber TAPs offers enterprises and data centers of all sizes complete access to their network data.

Capture all of your traffic to use in conjunction with monitoring tools for IPS, IDS, lawful intercept, data capture, data leakage prevention, and more!

All OMxxxx TAP models support only Breakout mode. See our portable and modular lines to learn more about our other modes and features!

Model #	Mode	Wavelengths	Ratio
OM1501	Multi-Mode 62.5 micron OM1	Dual 850/1300nm	50/50
OM1701	Multi-Mode 62.5 micron OM1	Dual 850/1300nm	70/30
OM3501	Multi-Mode 50 micron OM3	Dual 850/1300nm	50/50
OM3701	Multi-Mode 50 micron OM3	Dual 850/1300nm	70/30
OS1501	Single-Mode 9 micron OS1	Dual 1310/1550nm	50/50
OS1701	Single-Mode 9 micron OS1	Dual 1310/1550nm	70/30

Model #	Description
RMP - 1U	1U Rackmount Plate - Holds up to 4 TAPs



Passive Fiber Dual TAPs

10/100/1000 Megabit,
1 Gigabit, 10 Gigabit,
40 Gigabit, 100 Gigabit

Customizable Access Solutions

All of our TAPs split ratios are available in 50:50 and 70:30, but are also customizable to fit your needs.
Other common ratios:

- 60:40
- 80:20
- 90:10



All OMxxxx TAP models support only Breakout mode. See our portable and modular lines to learn more about our other modes and features!

Model #	Mode	Wavelengths	Ratio
OM1502	Multi-Mode 62.5 micron OM1	Dual 850/1300nm	50/50
OM1702	Multi-Mode 62.5 micron OM1	Dual 850/1300nm	70/30
OM3502	Multi-Mode 50 micron OM3	Dual 850/1300nm	50/50
OM3702	Multi-Mode 50 micron OM3	Dual 850/1300nm	70/30
OS1502	Single-Mode 9 micron OS1	Dual 1310/1550nm	50/50
OS1702	Single-Mode 9 micron OS1	Dual 1310/1550nm	70/30

Model #	Description
RMP - 1U	1U Rackmount Plate - Holds up to 4 TAPs

Passive Fiber Quad TAPs



10/100/1000 Megabit,
1 Gigabit, 10 Gigabit,
40 Gigabit, 100 Gigabit

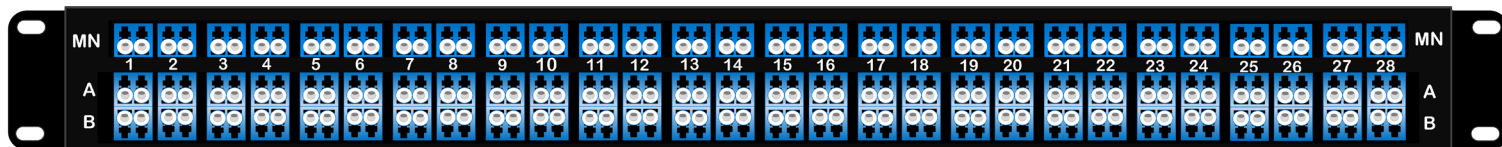


All OMxxxx TAP models support only Breakout mode. See our portable and modular lines to learn more about our other modes and features!

Model #	Mode	Wavelengths	Ratio
OM1504	Multi-Mode 62.5 micron OM1	Quad 850/1300nm	50/50
OM1704	Multi-Mode 62.5 micron OM1	Quad 850/1300nm	70/30
OM3504	Multi-Mode 50 micron OM3	Quad 850/1300nm	50/50
OM3704	Multi-Mode 50 micron OM3	Quad 850/1300nm	70/30
OS1504	Single-Mode 9 micron OS1	Quad 1310/1550nm	50/50
OS1704	Single-Mode 9 micron OS1	Quad 1310/1550nm	70/30
Model #	Description		
RMP - 1U	1U Rackmount Plate - Holds up to 4 TAPs		

High Density Fiber TAPs

Utilize up to 28 or 56 TAPs in a 1U rackspace - perfect for high density data centers.



All OMxxxx TAP models support only Breakout mode. See our portable and modular lines to learn more about our other modes and features!

Model #	Mode	Wavelengths	Ratio
OM15028	Multi-Mode 62.5 micron OM1	850/1300 nm	50/50
OM17028	Multi-Mode 62.5 micron OM1	850/1300 nm	70/30
OM35028	Multi-Mode 50 micron OM3	850/1300 nm	50/50
OM37028	Multi-Mode 50 micron OM3	850/1300 nm	70/30
OS15028	Single-Mode 9 micron OS1	1310/1550 nm	50/50
OS17028	Single-Mode 9 micron OS1	1310/1550 nm	70/30
OM15056	Multi-Mode 62.5 micron OM1	850/1300 nm	50/50
OM17056	Multi-Mode 62.5 micron OM1	850/1300 nm	70/30
OM35056	Multi-Mode 50 micron OM3	850/1300 nm	50/50
OM37056	Multi-Mode 50 micron OM3	850/1300 nm	70/30
OS15056	Single-Mode 9 micron OS1	1310/1550 nm	50/50
OS17056	Single-Mode 9 micron OS1	1310/1550 nm	70/30



Modular Chassis with Management

10/100/1000M
1Gigabit
Copper and Fiber

Visibility solutions that put you in control

Looking for a customizable and configurable answer to your access problems? Combining our modular TAPs (M1GCCB, M1GxxA and M1GxxBP) with a Modular Chassis with Management gives you the room for growth and control you need in a modern data center.

Simply plug your computer into the management port and issue detailed commands to your TAPs.

What you get with a Management System:

- Fit up to 12 TAPs in a 2U space
- Configure your TAPs on the fly - no need to remove them from the chassis!
- Control everything from your computer

Product Details

Model #	Number of TAPs	Product Description	Power Supply
M1G1ACS	4	1U Modular Chassis with Serial Mangement Ports, Dual Internal AC Power Supplies; Supports 4 TAP modules	Dual AC
M1G1DCS	4	1U Modular Chassis with Serial Mangement Ports, Dual Internal DC -48vdc Power Supplies; Supports 4 TAP modules	Dual DC -48vdc
M1G2ACS	12	2U Modular Chassis with Serial Mangement Ports, Dual Internal AC Power Supplies; Supports 12 TAP modules	Dual AC
M1G2DCS	12	2U Modular Chassis with Serial Mangement Ports, Dual Internal DC -48vdc Power Supplies; Supports 12 TAP modules	Dual DC -48vdc



M1G2xxx Chassis housing
2 M1GCC modules

Modular Chassis without Management



10/100/1000M

1Gigabit

Copper and Fiber

Ready for you -
right out of the box

Need a fast and reliable access solution? These Chassis, used with our modular TAPs (M1GCCB, M1GxxA and M1GxxBP), provide your organization the versatility of modular TAPs and the ease of plug-n-play no configuration solutions.

Once you've plugged your TAPs into the chassis, let them go to work - without any need for external management.

Key Benefits to Modular TAPs

- Support all 1G interfaces
- Fiber TAPs are passive
- 1U and 2U chassis support 4 or 12 TAPs
- High Density design
- Passes Physical Layer Errors
- Can run 100% Utilization with Heartbeat

Technology

- Supports Jumbo Frames

Product Details

Model #	Number of TAPs	Product Description	Power Supply
M1G1AC	4	1U Modular Chassis Dual Internal AC Power Supplies Supports 4 TAP modules	Dual AC
M1G1DC	4	1U Modular Chassis with Dual Internal DC -48vdc Power Supplies Supports 4 TAP modules	Dual DC -48vdc
M1G2AC	12	2U Modular Chassis with Dual Internal AC Power Supplies Supports 12 TAP modules	Dual AC
M1G2DC	12	2U Modular Chassis with Dual Internal DC -48vdc Power Supplies Supports 12 TAP modules	Dual DC -48vdc



M1G1xxx Chassis with
M1GMSx, M1GCCx, and
M1GSCx modules



Modular Aggregation/Regeneration TAPs

100/1000 Megabit

1Gigabit

Copper and Fiber

Garland Modular TAP Solutions

Modular TAPs are a great solution for monitoring your computer networks. The modular line is ideal for data centers and growing networks. With modular TAPs, you only purchase the products you need - with the option of adding more as your needs change.

Be sure to see our chassis for 1U and 2U, high-density options for the modules you need.

Key Benefits to Modular TAPs

- Configurable TAPs support Aggregation, Regeneration, and Breakout modes
- Packet Slicing Supported in Aggregation Mode
- Fiber TAPs are passive
- Modular design supports 1U and 2U chassis
- High Density design
- Passes Physical Layer Errors
- Can run 100% Utilization with Heartbeat Technology
- Supports Jumbo Frames

Product Details

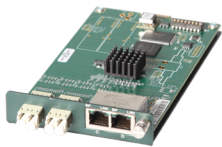
Model #	Media		Modes				Packet Injection Support	Network Speed
	Network	Monitor	Breakout	Aggregation	Regeneration/SPAN	Bypass		
M1GCCB	Copper	Copper	✓					10/100/1000M
M1GCCA	Copper	Copper	✓	✓	✓		✓	100/1000M
M1GCSA	Copper	SFP	✓	✓	✓		✓	100/1000M
M1GMCA	MM Fiber	Copper	✓	✓	✓			1000M
M1GMSA	MM Fiber	SFP	✓	✓	✓			1000M
M1GSCA	SM Fiber	Copper	✓	✓	✓			1000M
M1GSSA	SM Fiber	SFP	✓	✓	✓			1000M
M1GCCBP	Copper	Copper	✓	✓	✓	✓	✓	100/1000M
M1GCSBP	Copper	SFP	✓	✓	✓	✓	✓	100/1000M
M1GMCBP	MM Fiber	Copper	✓	✓	✓	✓	✓	1000M
M1GMSBP	MM Fiber	SFP	✓	✓	✓	✓	✓	1000M
M1GSCBP	SM Fiber	Copper	✓	✓	✓	✓	✓	1000M
M1GSSBP	SM Fiber	SFP	✓	✓	✓	✓	✓	1000M

Product Details

M1GCCA

Modular 100/1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

M1GMCA



Modular 1000M Aggregation TAP
2 Multi-Mode Passive Fiber LC Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

M1GSCA



Modular 1000M Aggregation TAP
2 Single-Mode Passive Fiber LC Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

M1GCCBP

Modular 100/1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

M1GMCBP



Modular 1000M Aggregation TAP
2 Multi-Mode Passive Fiber Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

M1GSCBP



Modular 1000M Aggregation TAP
2 Single-Mode Passive Fiber Tap Ports
2 Copper RJ-45 Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

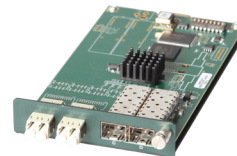
M1GCCB

Modular 10/100/1000M Breakout TAP
2 Copper RJ-45 Tap Ports
2 Copper RJ-45 Monitoring Ports
Passes data-link layer errors
Plug-n-Play No Configuration

M1GCSA

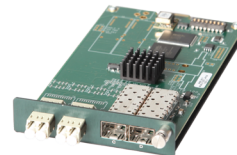
Modular 1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

M1GMSA



Modular 1000M Aggregation TAP
2 Multi-Mode Passive Fiber LC Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

M1GSSA

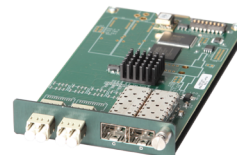


Modular 1000M Aggregation TAP
2 Single-Mode Passive Fiber LC Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

M1GCSBP

Modular 100/1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

M1GMSBP



Modular 1000M Aggregation TAP
2 Multi-Mode Passive Fiber Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support

M1GSSBP



Modular 1000M Aggregation TAP
2 Single-Mode Passive Fiber Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN
Packet Injection Support



Modular Bypass TAPs with Heartbeat

10 Gigabit

Putting our Heart Into your Network

The M10G line of TAPs are powerful, comprehensive access solutions. Supporting network speeds up to 10G, these Bypass TAPs support all modes and Garland's heartbeat technology.

While these Modules will not fit into our regular M1G1 and M1G2 chassis, the M10G1AC and M10G1DC chassis offer a 1U solution and fit up to 4 TAPs each and have 1 management port per module.

Key Benefits to a Heartbeat System

- Configurable TAP modules
- Support all 10G interfaces
- High Density design - reduce rack space and power connections!
- 1 Management port per module
- Supports Jumbo Frames
- Bi-directional heartbeats
- Runs at 100% utilization with heartbeats
- Packet Injection in Aggregation mode

TAP Details

Model #	Media		Modes				Packet Injection Support	Network Speed
	Network	Monitor	Breakout	Aggregating	Regenerating/SPAN	Bypass		
M10GMSBP	MM Fiber	SFP+	✓	✓	✓	✓	✓	10G
M10GSSBP	SM Fiber (LR)	SFP+	✓	✓	✓	✓	✓	10G
M10GESBP	SM Fiber (ER)	SFP+	✓	✓	✓	✓	✓	10G

Chassis Details

Model #	Number of TAPs	Product Description	Power Supply
M10G1AC	4	1U 10 Gigabit Chassis Supports 4 M10GxxBP TAPs Dual AC Power Supplies	Dual AC
M10G1DC	4	1U 10 Gigabit Chassis Supports 4 M10GxxBP TAPs Dual DC -48v Power Supplies	Dual DC -48vdc



M10G1AC

1U 10 Gigabit Chassis
Supports 4 M10GxxBP TAPs
Dual AC Power Supplies

M10G1DC

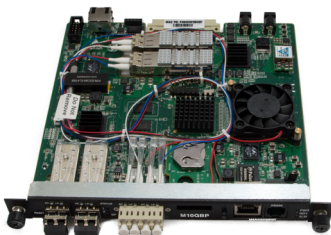
1U 10 Gigabit Chassis
Supports 4 M10GxxBP TAPs
Dual DC -48v Power Supplies



The M10G1 1U chassis are available in Dual AC and Dual DC power supplies. Not sure what you need? Ask a network designer at info@garlandtechnology.com!

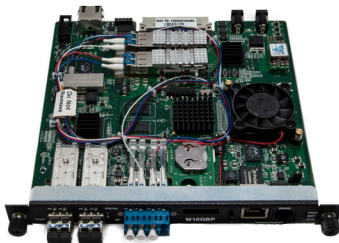
M10GMSBP

10 Gigabit-SR Bypass TAP Module
2 Multi-mode SR Fiber Network Ports
2 SFP+ Cage Monitoring Ports



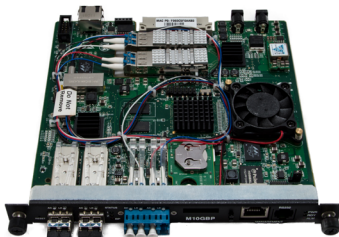
M10GSSBP

10 Gigabit-LR Bypass TAP Module
2 Single-mode LR Fiber Network Ports
2 SFP+ Cage Monitoring Ports



M10GESBP

10 Gigabit-ER Bypass TAP Module
2 Single-mode ER Fiber Network Ports
2 SFP+ Cage Monitoring Ports





Filtering Aggregating Load Balancing Systems

FAB - Simplify Your Network

The Filtering Aggregating Load Balancer (FAB) is ideal for directing traffic flow from one or more sources to multiple monitoring or security devices. With every port supporting every feature and being fully configurable, the FAB gives you ultimate flexibility in network visibility.

The FAB supports 10/100/1000M Copper and 1G, 10G, and 40G Multi- and Single-mode Fiber systems with one-to-many, many-to-one, and many-to-many configurations.

Turn any port into an input or output port - with the FAB solution, you have ultimate control of your data.

Key Benefits to the FAB

- One-to-many, many-to-one, many-to-many configurations
- All ports can be configured as input or monitoring ports
- 1U Chassis with dual power supplies
- Packet Slicing support
- Load balancing using multiple definitions
- Supports MPLS and Q in Q framing
- No per-port licensing fees
- Syslog friendly device management

The FAB has dual internal power supplies, available in AC and DC.



NEW! FAB supports user-based security right down to the port level

The FAB System offers 8, 16, 24, 36, or 48 ports.



The management and console ports allow you to change modes, check stats, and configure your FAB system.





1 Gigabit
10 Gigabit
40 Gigabit

FAB10G8AC



1/10G Filtering Aggregation Load Balancing System
8 SFP/SFP+ Ports
1U Integrated Chassis with Dual AC Power Supplies
Supports Filtering, Aggregation, Load Balancing, Packet Slicing, Tag Stripping, VLAN Tagging, Jumbo Frames, and Regeneration (Any-to-Any)
1 Management Port & 1 Console Port

FAB10G16AC



1/10G Filtering Aggregation Load Balancing System
16 SFP/SFP+ Ports
1U Integrated Chassis with Dual AC Power Supplies
Supports Filtering, Aggregation, Load Balancing, Packet Slicing, Tag Stripping, VLAN Tagging, Jumbo Frames, and Regeneration (Any-to-Any)
1 Management Port & 1 Console Port

FAB10G24AC



1/10G Filtering Aggregation Load Balancing System
24 SFP/SFP+ Ports
1U Integrated Chassis with Dual AC Power Supplies
Supports Filtering, Aggregation, Load Balancing, Packet Slicing, Tag Stripping, VLAN Tagging, Jumbo Frames, and Regeneration (Any-to-Any)
1 Management Port & 1 Console Port

FAB10G48AC



1/10G Filtering Aggregation Load Balancing System
48 SFP/SFP+ Ports
1U Integrated Chassis with Dual AC Power Supplies
Supports Filtering, Aggregation, Load Balancing, Packet Slicing, Tag Stripping, VLAN Tagging, Jumbo Frames, and Regeneration (Any-to-Any)
1 Management Port & 1 Console Port

FAB40G36AC



1/10/40G Filtering Aggregation Load Balancing System
4 40 Gigabit QSFP Ports
36 SFP/SFP+ Ports
1U Integrated Chassis with Dual AC Power Supplies
Supports Filtering, Aggregation, Load Balancing, Packet Slicing, Tag Stripping, VLAN Tagging, Jumbo Frames, and Regeneration (Any-to-Any)
1 Management Port & 1 Console Port



Zero Power Modular TAPs

1 Gigabit
10 Gigabit

No Power, No Problem!

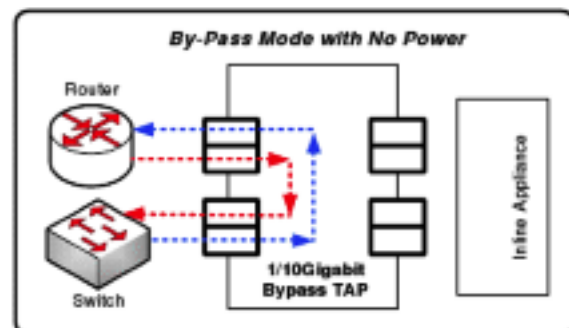
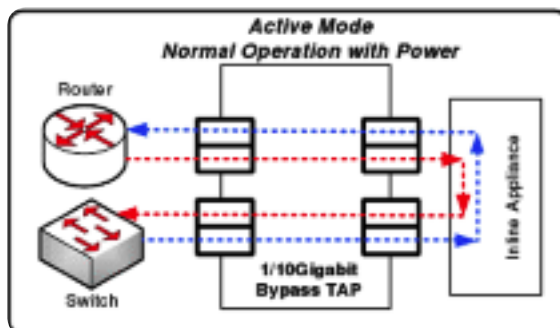
Modular TAPs are a fantastic solution for <situation>. Even more convenient, if your needs may not change in the long-term, is a plug-n-play modular TAP. The M1GxxBPZP and M10GxxBPZP models offer the stability and access you need right out of the box. Similar to our OMxxxx and OSxxxx models, these are passive TAPs useful in Fiber networks.

Key Benefits to Modular TAPs

- Support all 1G interfaces
- Fiber TAPs are passive
- Modular design supports 1U and 2U chassis
- High Density design
- Passes Physical Layer Errors
- Can run 100% Utilization with Heartbeat Technology
- Supports Jumbo Frames

Product Details

Model #	Media		Modes				Packet Injection Support	Network Speed
	Network	Monitor	Breakout	Aggregation	Regeneration/SPAN	Bypass		
M1GM62BPZP	MM Fiber	MM Fiber	✓			✓		1000M
M1GS9BPZP	SM Fiber	SM Fiber	✓			✓		1000M
M10GM62BPZP	MM Fiber	MM Fiber	✓			✓		1000M
M10GS9BPZP	SM Fiber	SM Fiber	✓			✓		1000M





M1GM62BPZP

Zero Power Bypass TAP
1G-SX Multi-mode OM1 62.5 Micron Fiber
850nm Wavelength
Plug-n-Play No Configuration

M1GS9BPZP

Zero Power Bypass TAP
1G-SX Multi-mode OM1 62.5 Micron Fiber
850nm Wavelength
Plug-n-Play No Configuration

M10GM62BPZP

Modular 1000M Aggregation TAP
2 Copper RJ-45 Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN

M10GS9BPZP

Modular 1000M Aggregation TAP
2 Multi-Mode Passive Fiber LC Tap Ports
2 SFP Monitoring Ports
Single Power Supply
Supports Breakout, Aggregation, SPAN



Modular Bypass TAPs without Heartbeat

1 Gigabit
10 Gigabit

No Power, No Problem!

The zero power bypass TAPs are perfect for installing in-line appliances into your network. The M1GxxBPZP and M10GxxBPZP models offer the stability and access you need right out of the box. Similar to our OMxxxx and OSxxxx models, these are passive TAPs used in Fiber networks.

Bypass TAP mode allows you to install in-line appliances without adding a point of failure. See every bit of data in your network - and feel secure doing it!

Key Benefits to Modular TAPs

- Support all 1G interfaces
- Fiber TAPs are passive
- Modular design supports 1U and 2U chassis
- High Density design
- Passes Physical Layer Errors
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Model #	Media		Modes				Packet Injection Support	Network Speed
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M1GM62BPZP	MM Fiber	MM Fiber	✓			✓		1000M
M1GS9BPZP	SM Fiber	SM Fiber	✓			✓		1000M
M10GM62BPZP	MM Fiber	MM Fiber	✓			✓		1000M
M10GS9BPZP	SM Fiber	SM Fiber	✓			✓		1000M

Cables, SFP, SFP+, QSFP+



10/100/1000M,
1Gigabit, 10Gigabit, 40Gigabit
Copper and Fiber

Product Details

Model #	Media	Product Description	Network Speed
SFPTX	Copper	SFP 10/100/1000 Copper RJ-45 Connector	10/100/1000M
SFPSX	MM Fiber	SFP 1000Base-SX Multi-Mode Fiber LC Connector	1000M
SFPLX	SM Fiber	SFP 1000Base-LX Single-Mode Fiber LC Connector	1000M
SFP+SR	MM Fiber	SFP+ 10Gigabit-SR Multi-Mode Fiber LC Connector	1/10G
SFP+LR	SM Fiber	SFP+ 10Gigabit-LR Single-Mode Fiber LC Connector	1/10G
SFP+ER	SM Fiber	SFP+ 10Gigabit-ER Single-Mode Fiber LC Connector	10G
TWINAX1M	Copper	Twinax Copper Direct Connect Cable SFP+ 10Gigabit 1 Meter	10G
TWINAX5M	Copper	Twinax Copper Direct Connect Cable SFP+ 10Gigabit 5 Meters	10G
TWINAX10M	Copper	Twinax Copper Direct Connect Cable SFP+ 10Gigabit 10 Meters	10G
QSFP	MM Fiber	QSFP+ 40Gigabit Multi-Mode Fiber LC Connector	40G
SFP+SR10G	MM Fiber	SFP+ 10Gigabit-SR Multi-Mode Fiber LC Connector **Required for M10G Line**	10G
SFP+LR10G	SM Fiber	SFP+ 10Gigabit-LR Single-Mode Fiber LC Connector **Required for M10G Line**	10G
SFP+ER10G	MM Fiber	SFP+ 10Gigabit-ER Single-Mode Fiber LC Connector **Required for M10G Line**	10G



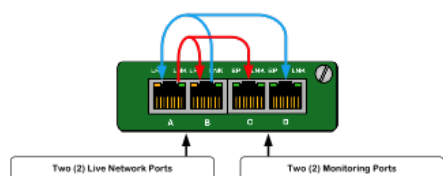


A Test Access Point (TAP) Primer

by George Bouchard

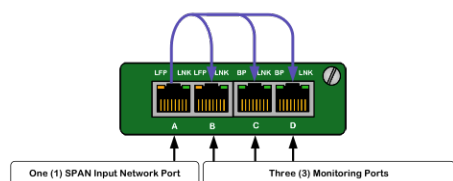
When the subject of Test Access Points (most commonly referred to as a TAP) comes up, the image that may come up in people's mind is a device that sits somewhere along the network to create a copy of the traffic that is sent to an analyzer. On a very basic level this is the use for a TAP – as a result, many people dismiss TAPs as simple ways to gain access to their network traffic for analysis.

However, the truth is that TAPs can be quite complex; we're here to break it down for you, though. To begin with, there are five different TAP designs:

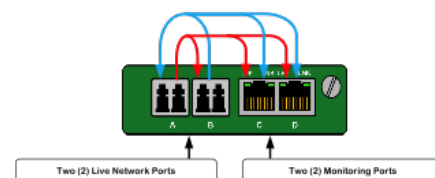


1. Breakout TAP – The first type takes the traffic that flows from network port A to network port B and sends it to monitor port C and the traffic that flows from network port B to network port A and send it to monitor port D.

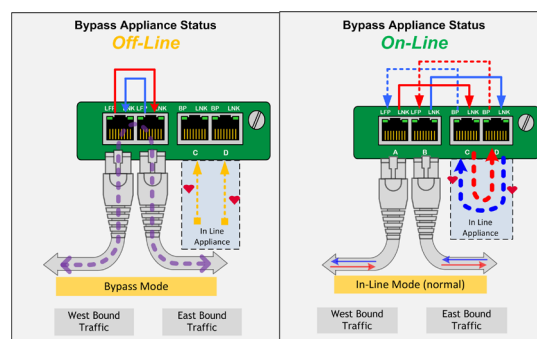
2. Aggregation TAP – This type takes the traffic that flows from ports A to B and B to A and merges it together into one monitoring port.



3. Replicating TAP - The replicating TAP takes a SPAN input and sends the traffic out to multiple ports.



4. Bypass TAP – The Bypass TAP is an important tool that allows users to place In-line Appliances into a critical link without introducing a “Point of Failure”. In a scenario where you want to install an In-Line Appliance like an Intrusion Prevention System (IPS) without a TAP, you would have to run the critical traffic through the appliance and if anything goes wrong with it, the link goes down. The Bypass TAP will prevent this from happening when you connect your critical link to the TAP, rather than the appliance itself, as in the diagram below.



5. Media Changing TAP - This TAP can take a fiber link and convert the monitoring ports to copper, for example, or vice versa.

Aside from all the various types of TAPs, another important fact is that a TAP must be able to do a very important task – it must not introduce a “point of failure”. If anything were to go wrong with the TAP, the live traffic must continue to flow.

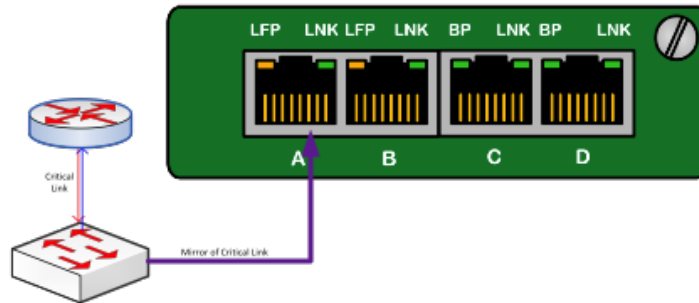
I hope this takes some of the mystery out of Test Access Points, and I'll come back soon with some information that shows you why we have so many kinds of these devices.

SPAN Mode - What is the Point?

by George Bouchard

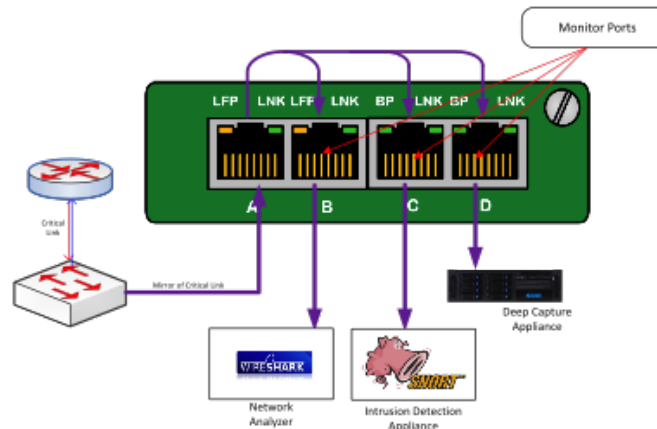


So far, we have explained two different modes that can be used for Test Access Point devices (TAP) – Breakout mode and Aggregating mode. Now I will review another way a TAP can be used when trying to get access to traffic that is moving along your network. The SPAN mode is a unique mode for a TAP that takes the SPAN or Mirrored output from a Network Switch or Router and simply replicates the traffic flow out to up to three of the ports on the four ports.



The SPAN/Mirrored output of the Switch, is the aggregation of the “send” and “receive” traffic of the Critical Link as illustrated in Figure 1. An important observation shows us that, unlike the Breakout or Aggregation TAP modes, there is no need to worry about the TAP being a point of failure. The link itself does not run through the TAP, only the copy of the link’s traffic is sent to the TAP.

There are many situations when there are not enough SPAN/Mirrored ports available on a switch to allow access to all of the Monitoring appliances that need to see the traffic of the Critical Link, so introducing a SPAN Mode TAP provides a way to distribute the Critical Link traffic to up to three appliances as illustrated in Figure 2.



When planning network access using SPAN/Mirrored traffic from a Switch or Router, keep in mind that the Switch or Router’s job is to be a switch or a router first and if they start to get real busy they will forego servicing the SPAN ports first so they can keep up with their primary function. So if you need to monitor all the traffic without exception, then you should consider using a Breakout or Aggregation TAP to provide access rather than a SPAN. Well that’s about all that is pertinent about a SPAN/Regeneration TAP, there are times when they are the perfect solution and they are very easy to deploy.

Next time we will review the Bypass TAP. It provides a safe way to insert an In-Line Appliance such as an Intrusion Prevention System (IPS) without introducing a point of failure to the Link.



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