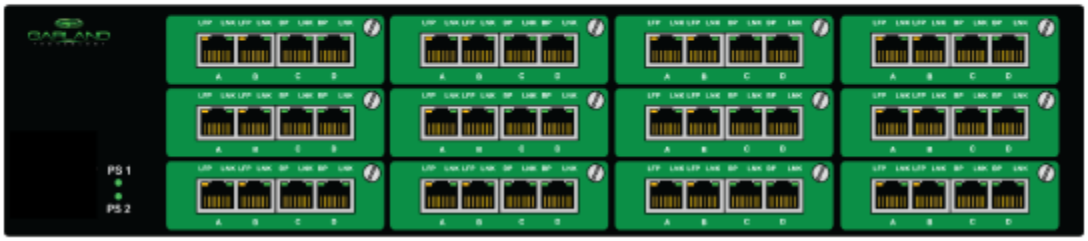
M1GCCB Quick Start Guide

The Modular network TAP is ideal for 10/100/1000MB copper network monitoring. The innovative design allows this TAP to be easily installed into any copper 10/100/1000 network segment. Once installed in your network the 10/100/1000 network TAP will enable you to monitor your network segments quickly and effectively using a network analyzer, security devices, or any monitoring tool. This 10/100/1000 copper TAP allows you to capture full-duplex traffic without dropping any packets.

1U Chassis with Four M1GCCB Modules



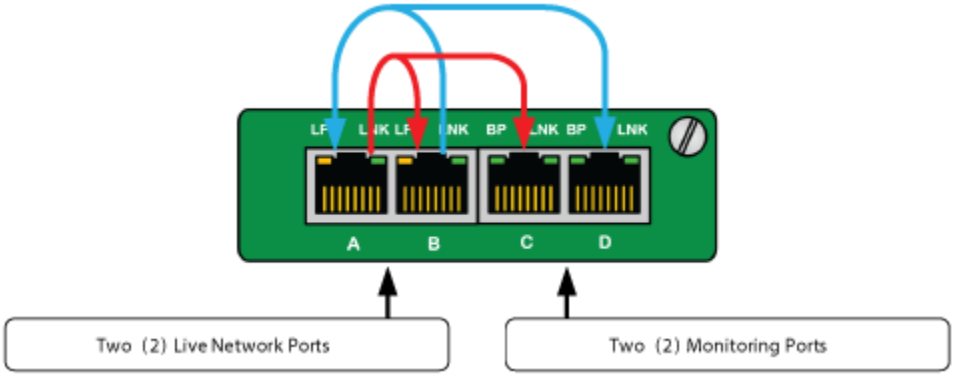
2U Chassis with Twelve M 1GCCB Modules

Traffic Flow

The copper 10/100/1000 copper taps provide a copy of the directional traffic out each monitoring port.

Monitor Port C provides you a copy of the A -> B traffic

Monitor Port D provides you a copy of the B -> A traffic



M1GCCB Modular TAP KEY FEATURES

- Small form factor – can fit 4 TAPs in a 1U and 12 TAPs in a 2U form factor
- Four (4) Copper RJ-45 Ports
- Link Speed Synchronization
- Captures Full Duplex Traffic up to 2 Gigabits without dropping any packets
- Supports Jumbo Frames
- Passes physical layer errors

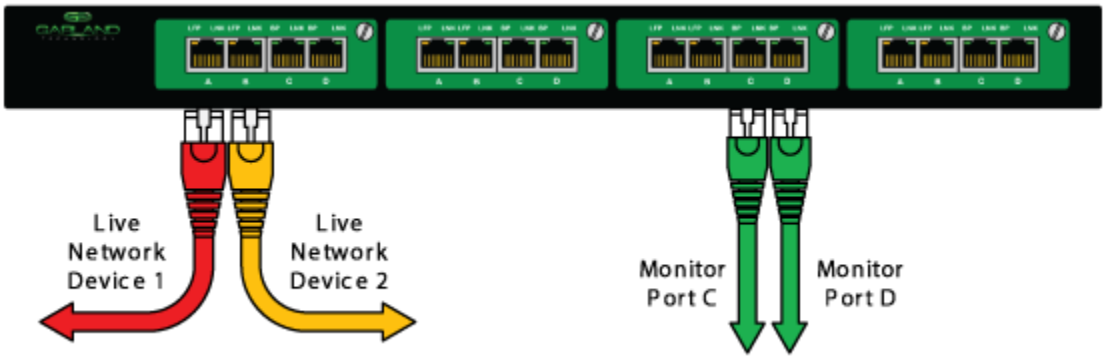
To deploy the M1GCCB Modular Tap into your network, simply:

- Unpack the network TAP
- Configure the DIP switches before TAP insertion into chassis (see next page)
- Install network TAP into the live network - THIS NEEDS TO BE DONE WITH NO POWER CONNECTED TO THE TAP
- Using two (2) straight through Ethernet cables, connect ports [A] and [B] of the M1GCCB between the two (2) live network devices where monitoring is desired. Again, with NO POWER to the TAP verify network traffic is flowing. Traffic will flow with no power to the tap.
- If traffic does not flow, then we need to verify network speeds and duplexing. In 10M and 100M environments, one (1) straight through cable and one (1) crossover cable may be required.
- Verify live network is up and running
- Power up the TAP
- Connect ports [C] and [D] of the M1GCCB to the monitoring tools for directional network monitoring

  Note: Network Cables MDI/MDIX determines direction of monitor output port

  Please take notice, the M1GCCB is only manageable via the DIP switches. DIP switch 8 must be in the off position even if it is inserted into a managed chassis (M1GxACS)

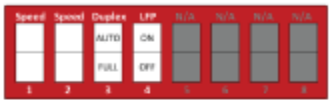
Network cabling:



Note: For space, the diagram above is showing the network and monitoring links on separate TAPs. A / B network ports correspond to C / D monitoring ports for each TAP individually.

DIP Switch settings Defined with examples

Mode	Switch 1 (Speed_1)	Switch 2 (Speed_2)	Switch 3 Duplex	Switch 4 LFP	Switch 5	Switch 6	Switch 7	Switch 8
Sync Mode	OFF	OFF	Sync Mode Forces AUTO ON Switch has no effect	Sync Mode Forces LFP ON Switch has no effect	Switches 5, 6, 7, and 8 for future use			
Garland Technology's unique **Synchronization Mode** provides you a plug-n-play zero configuration design. Network ports [A] and [B] will synchronize to determine the highest supported network speed, drop link across all ports, and then only advertise and link to the highest supported common network speed on all ports. See LED section for how you know what speed the TAP connects at.								
1Gbps	ON	ON	ON = AUTO OFF = FULL	ON = LFP ON OFF = LFP OFF				
100Mbps	OFF	ON	ON = AUTO OFF = FULL	ON = LFP ON OFF = LFP OFF				
10Mbps	ON	OFF	ON = AUTO OFF = FULL	ON = LFP ON OFF = LFP OFF				



DIP Switch Setup

SYNCHRONIZATION | AUTO | LFP

Configuration Examples

1 GIGABIT | AUTO | LFP ON

100MB | FULL | LFP OFF

10MB | FULL | LFP OFF

Definitions

Synchronization Mode: DIP Switch 1 and 2 in OFF position. When in Synchronization Mode, all ports of the M1GCCB TAP are Auto MDI/MDIX, Auto Speed and Auto Duplex automatically. The TAP will synchronize to determine the highest supported network speed, drop link across all ports, and then only advertise and link to the highest supported common speed on all ports. Places the TAP in full auto mode.

1G, 100M or 10M Speed Mode: (See table for Switch positions) When one of the Speed Settings are selected then you have the option to select the Duplex (AUTO or FULL) and whether to have LFP turned on or not.

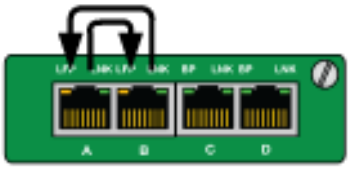
Link Failure Propagation (LFP): Used mostly for HA designed networks. It can sense a network failure and reflect the failure to the other side of the network allowing the network s failover mechanism to switch over to the secondary network path.

Duplex: AUTO setting (Switch 3 in ON position default) lets the port negotiate the duplex mode with the link pair (only in copper connections).

FULL setting forces the link to full duplex mode

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

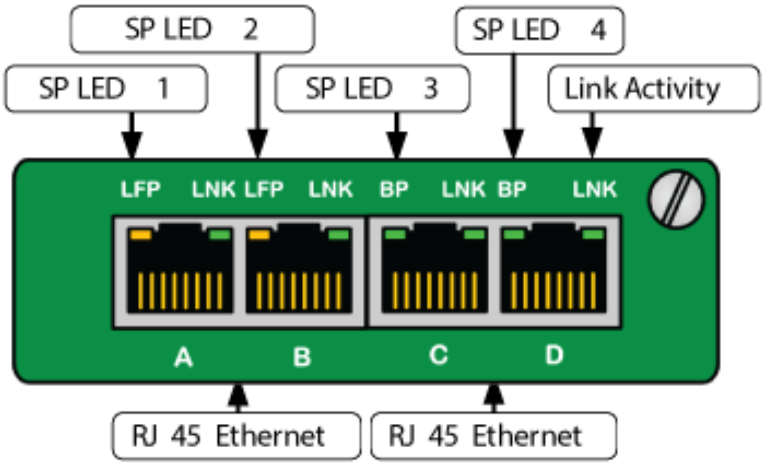
FailSafe: On power loss, live network tap ports reestablish link with each other, resuming traffic flow between critical network devices.



FailSafe Operation

LED Labeling

When in the Synchronization Mode the SP LEDs will show you what speed has been synchronized for the link. Below is a diagram and chart showing the LED operations.



LED Indicators based on Speed Settings	Switch 1	Switch 2	LFP LED 1	LFP LED 2	BP LED 3	BP LED 4
1Gbps	ON	ON	Indicates Lost Link. If Amber – lost link on Port A	Indicates Lost Link. If Amber – lost link on Port B	ON	ON
100Mbps	OFF	ON			ON	OFF
10Mbps	ON	OFF			OFF	ON
Sync Mode	OFF	OFF	Indicates 1G	Indicates 100M	Indicates 10M	Indicates Negotiation

SP (Speed): When in Sync Mode only, indicates the highest established common speed across all ports of a tap. LED s indicate the following established speeds: [1st SP 1G] – [2nd SP 100M] – [3rd SP 10M] – [4th SP Negotiating]

LNK (Link/Activity): Solid when link is achieved and flashes when Ethernet activity is detected on a particular interface.

For questions, please contact Garland Technology Support at:
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