Gigabit Ethernet Aggregation TAP (USB)
USR4524 - Installation Guide

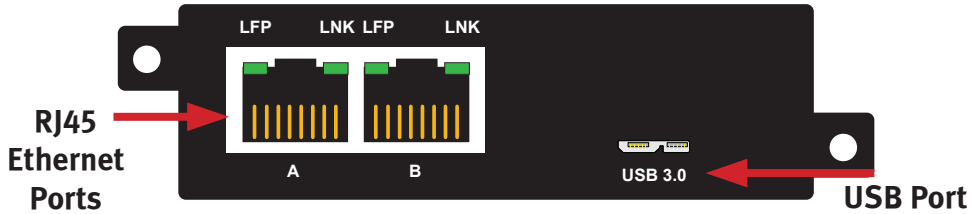
The USR4524 Gigabit Ethernet Aggregation TAP (Test Access Point) with USB monitoring will tap a single network link or segment. Network segments may be monitored using a network analyzer, security devices or any monitoring appliance or tool via a USB cable. Capture full-duplex traffic without dropping any packets. This USB TAP can be powered via USB 3 as well as the included optional power supply.

Package Contents:

- USR4524 Gigabit Ethernet Aggregation TAP (USB) with mounting tabs for use with URS4522-RMK (4 unit 1U rackmount)
- 1 USB 3.0 cable
- 1 AC power supply with clips for US, UK, EU, AU
- 2 mounting screws
- Information Card

Front View

LFP: Link Failure Propagation
LNK: Link Activity
A/B: RJ45 Ethernet Ports
USB 3.0 Port

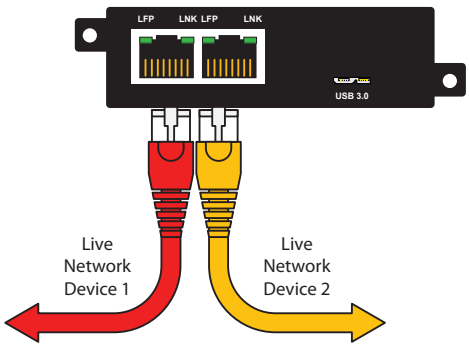


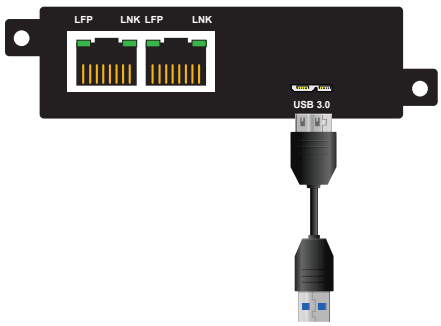
Rear View

DIP switches shown in default configuration

Installation Steps

1. This product is dependent on OS drivers. If you have a Windows 10, 8, 8.1, or 7 computer this TAP will not require you to install device drivers if the OS is up-to-date. Check **www.usr.com/support/4524** for latest driver information. Download drivers if needed.
2. Unpack the TAP and, if desired attach to the optional rack mount. Instructions are provided on page 4. DO NOT CONNECT THE POWER/USB at this point.
3. Configure the DIP switches (located on the back side of the unit) for the operating mode of your choice.
4. Install the 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 between two live network devices where monitoring is desired.
5. Verify network traffic is flowing, confirming that network cabling is correct.
6. If your USB host is not 3.2 Gen 1 or higher, connect the power supply to the USR4524 and plug it in to an available power source.
7. Attach the TAP to your computer/server with the provided USB 3.0 cable. Windows should immediately detect a high speed USB hub device connected. Use the USB port to connect with monitoring tools for traditional traffic monitoring.



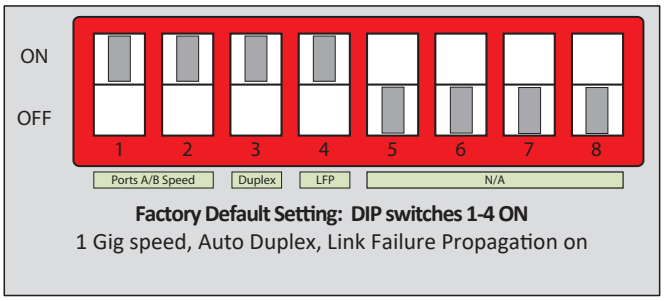


Note: Anytime the configuration switches are changed, remove and then re-apply power for the changes to take effect.

Configuration/DIP Switch Settings

DIP switches on the back of the TAP can be used to configure speeds, modes, and link failure propagation.

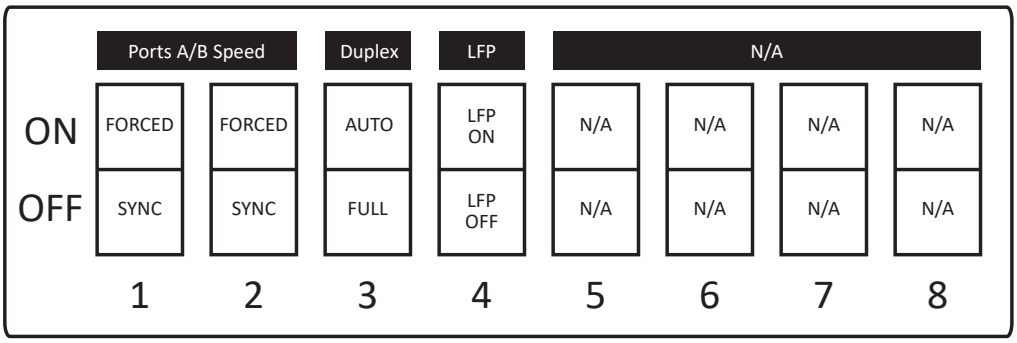
Factory Default Settings



Factory Default Setting: DIP switches 1-4 ON
1 Gig speed, Auto Duplex, Link Failure Propagation on

Definitions

LFP (Link Failure Propagation): Allows link state to be mirrored to the adjacent live network interfaces.
Duplex: The AUTO setting allows auto-negotiate to advertise full duplex operation. The FULL setting forces full duplex operation without using auto-negotiate.
SYNC (Synchronization): Allows auto-negotiate to choose the link speed and synchronizes the link speed of the network ports.
N/A (Not applicable): The 4 N/A DIP switches have no effect on this product.



Ports A/B Speed Mode		
	SW1	**SW2**
Sync Mode* Forces AUTO Duplex Forces LFP ON	OFF	OFF
10 Mbps	ON	OFF
100 Mbps	OFF	ON
1 Gbps	ON	ON

Duplex	
	SW3
Auto	ON
Full Duplex	OFF

Link Failure Propagation	
	SW4
LFP On	ON
LFP Off	OFF

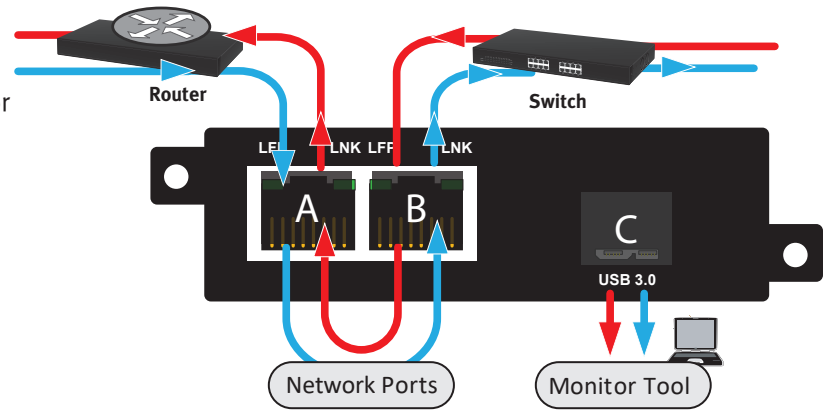
* Synchronization Mode provides a plug-n-play zero configuration design. Synchronization Mode will determine the highest supported speed of network ports [A] and [B]. Ports [A] and [B] will link, then advertise and connect at the highest supported common network speed.

Link Failure Propagation (LFP) :

- LFP is used mostly for High Availability (HA) designed networks.
- LFP applies to Network ports only.
- When enabled, LFP 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.
- LFP ensures an instant switch to the secondary link to maintain 100% uptime.

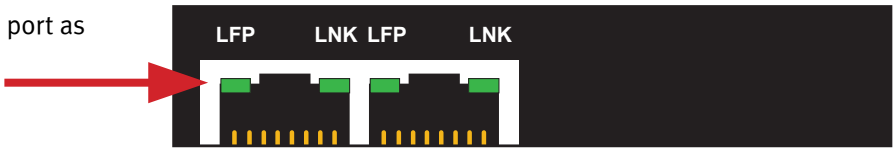
Configuration/DIP Switch Example

- This TAP operates in Aggregation mode, which combines traffic from both port A and port B and transmits an aggregated copy from the USB monitor port.



LEDs

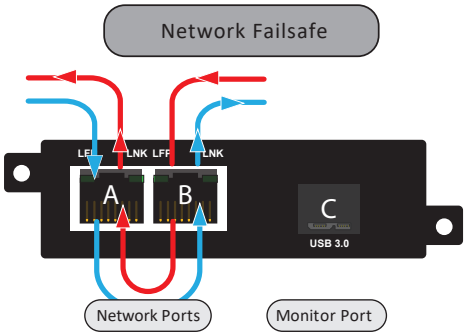
The USR4524 has 4 LED indicators - 2 for each port as shown to the right.



LED		Status		Meaning
LNK		ON		Link is active
		FLASHING		Link is active and packets are flowing
		OFF		Link is not active
		LFP A	LFP B	
LFP	Sync enabled	ON	OFF	Network speed of ports A/B is 1G
		OFF	ON	Network speed of ports A/B is 100M
		OFF	OFF	Network speed of ports A/B is 10M
	Sync disabled LFP enabled	ON	OFF	Link A failure is detected
		OFF	ON	Link B failure is detected
		OFF	OFF	Link failure is not detected
	Sync disabled LFP disabled	OFF	OFF	LFP is disabled

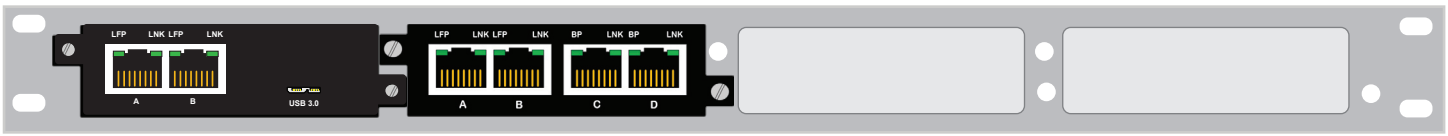
Operating Notes:

- The USR4524 operates in aggregation mode, it is important to consider the link utilization on the network links. If the combined bidirectional traffic over the network ports exceeds the speed of the monitoring devices, loss of the traffic through the monitoring ports will occur.
- At the default settings, the network ports on the USR4524 are set to 1G speed. If these ports are connected to networking devices with manual speed settings, confirm that the devices on either side of the TAP are at the same speed. For optimal results set all connected networking devices to AUTO speed negotiation.
- For up to 1 Gbps speeds, use Cat 5 or better cable with a maximum length between network devices (not including the TAP) of 100 meters.
- The TAP ethernet ports use Auto-MDI/MDI-X, so either crossover cables or straight cables may be used.
- If power is lost on the USR4524, internal relays on the network ports will close and allow traffic to continue to pass through. Monitor ports will not transmit traffic while the device is powered off.
- Supports jumbo frame sizes up to 9,216 bytes.



Rackmounting the USR4524 Aggregation TAP

The USR4522-RMK rackmount kit is available separately to mount 4 units horizontally.



Installing the USR4524 Aggregation TAP into the USR4522-RMK Rackmount unit:

1. Insert the TAP into any available slot of the installed rackmount.
2. Align the rackmount tabs.
3. Insert and tighten included screws to secure the TAP to the rack.
4. Install into a 1U space in a standard 19” rack. Mounting screws are included with the USR4522-RMK.

Warranty and Support Information:

This product is subject to the U.S. Robotics Corporation Limited Warranty. To view a copy of the Limited Warranty, please see: **www.usr.com/support/4524**

For information on how to contact USR Technical Support, please see the USR corporate website at: **www.usr.com/support**

Regulatory Information:

CE Compliance Declaration of Conformity

Hereby, USRobotics declares that this TAP, USR Gigabit Ethernet Aggregation TAP (USB), is in compliance with the essential requirements and other relevant provisions of RoHS Directive EU 2015/863; EMC Directive 2014/30/EU; Low Voltage Directive 2014/35/EU and ErP Directive 2009/125/EC. An electronic copy of the original CE Declaration of Conformity is available at the USR website: **www.usr.com/support/4524**

This product is subject to Directive 2012/19/EU of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE) and, in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal waste. Please utilize your local WEEE collection facilities in the disposition of this product and otherwise observe all applicable requirements. For further information on the requirements regarding the disposition of this product and collection facilities that may be available to you, please visit: **www.usr.com/weee**

www.usr.com/regulatory-compliance-export/