



ETHERNET EXTENSION EXPERTS

Enable-IT 824 Gigabit Ethernet Extender Quickstart Guide

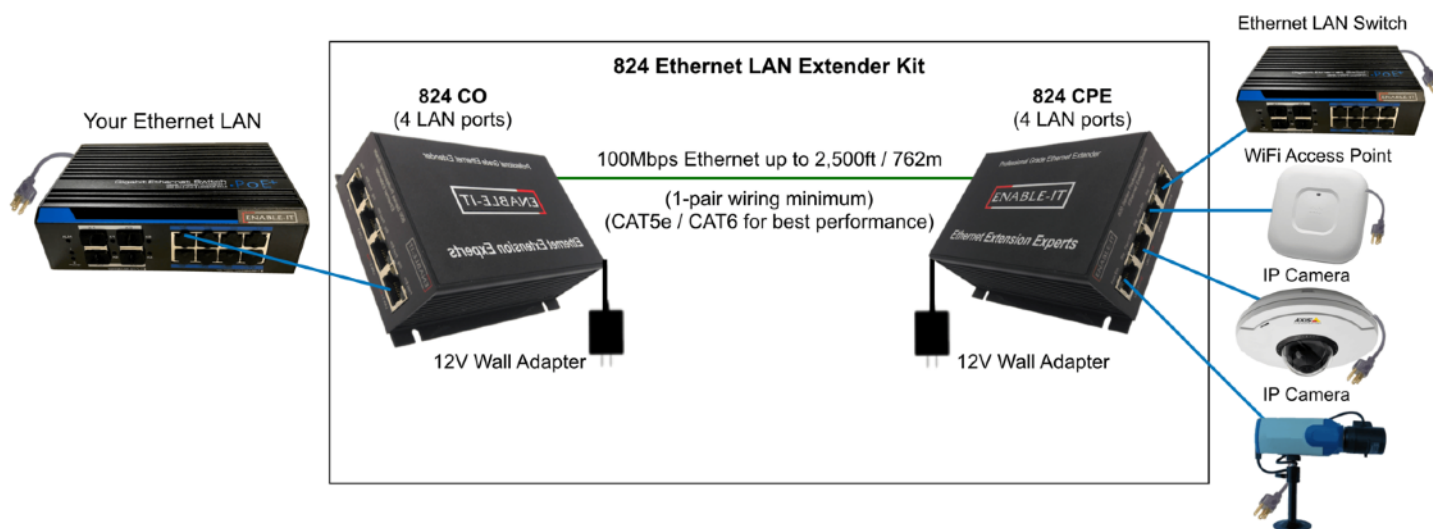


Professional Grade Networking



INSTALLING THE 824 GIGABIT ETHERNET EXTENDER

The Enable-IT 824 Gigabit Ethernet Extenders have a distance reach of up to 2,500ft (762m) over any 1-pair wiring (Telephone, Coax, or Category rated) between the 824 units. You can add additional 328ft (100m) onto the end of each 824 LAN output ports for a total distance of 3,156ft (962m) from device extension to device extension. Therefore a site survey of the wiring and installation planning are highly recommended. For highest performance use lower gauge wiring like 14AWG ~ 24AWG for the interlink wiring.



The Overview Diagram: This diagram shows the contents of the product box inside the rectangle. Devices outside the rectangle above are your equipment that can be attached.

We highly recommend that you perform a quick out of the box test to ensure the working order of your Enable-IT 824 Gigabit Ethernet Extender units prior to installing. This will also serve to familiarize you with how easy the process should be. Follow the steps below to perform the Out Of the Box Test.

Step 1 - Attach the 12V DC power adapter to each 824 unit and power up the units. The Power LED will indicate the unit is receiving power.

Step 2 - Connect the 824 units together using one of the Ethernet LAN Patch cords provided – attach to the RJ-45 Interlink port on each 824 unit as shown by the green line connecting the ports in the diagram above. The LED indicators on the 824 LAN ports will provide visual operational status of the 824 units.

824 Unit Interlink Side RJ-45 Port LEDs

Mode – Yellow LED OFF = Identified as CO (Master)Unit
 – Yellow LED ON = Identified as CPE (Slave) Unit

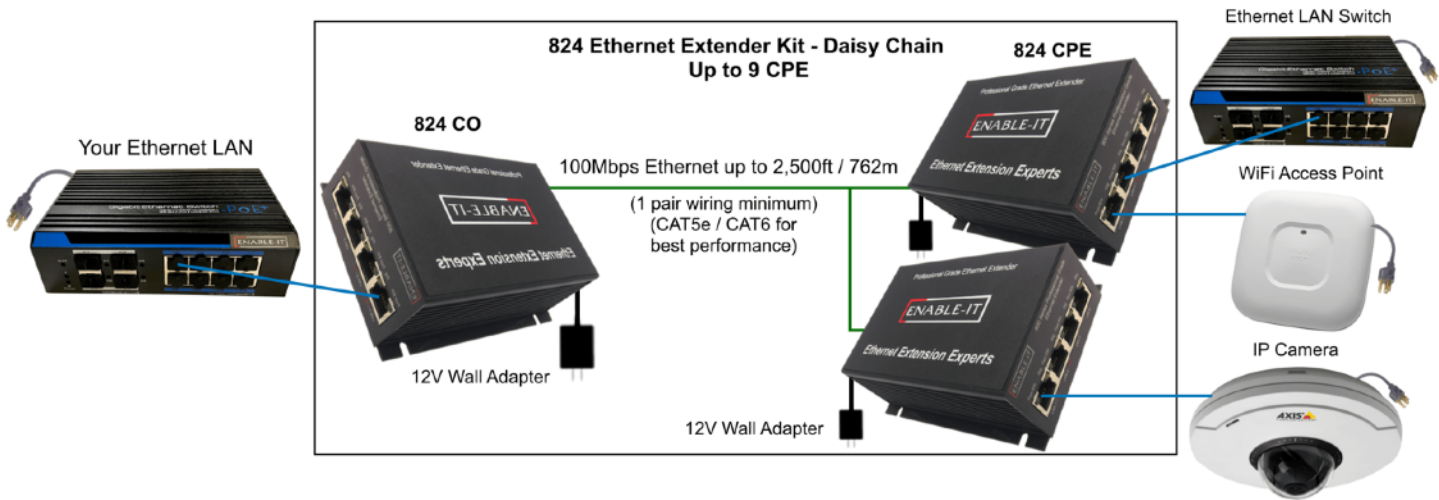
Sync – Green LED indicates link established with CPE / Slave unit

Step 3 - Attach and test and to confirm your LAN Equipment works through the 824 extension, connect your Ethernet LAN to the 824 CO unit LAN ports and the remote device/s to the 824 CPE LAN ports and test connectivity. The Yellow LAN side LEDs will pulse rapidly as it detects traffic.

This confirms basic proper operation of the units.

Daisy-Chaining Multiple 824 CPE Units to Your Existing Cabling

The 824 Ethernet Extender CO unit is capable of communicating with up to 9 824 CPE units as long as you have local AC power outlets available for each 824 CPE along the run. The 100Mbps Ethernet LAN data is shared among all the of the 824 CPE units and all the LAN devices connected.



How to Crimp Your 1-Pair, 2-Pair or 4-Pair Ethernet Network Cabling for the Daisy Chain Setup

Step 1 - Cut the RJ-45 Head off of your existing 1 pair copper cabling (or 2 pair cabling) so that all 2 wires (or all 4 wires) are bare and showing. Take a new long distance 1 pair copper cable extension (or 4 pair copper cable extension) that will be used for the new 824 CPE and solder them to the matching data pairs of the existing cable extension.

(1-Pair) Pins 1 and 2 for voice and data line one soldered to pins 1 and 2 on the new cable extension.

Another alternative voice and data pair that can be soldered is pins 3 and 6 to the same pins 3 and 6 on the new cable extension.

(2-Pair) Pins 1, 2, 3 & 6 for voice and data lines one and two soldered to pins 1,2,3, & 6 on the new cable extension.

(4-Pair) Pins 1, 2, 3 & 6 for voice and data lines one and two soldered to pins 1,2,3, & 6 on the new cable extension.

Pins 4,5+, 7 & 8- for positive and negative power soldered to pins 4,5+, 7 & 8- on the new cable extension. (The more copper, the better your performance and throughput will be even if you are not using PoE power on the extension.)

Step 2 - Once you have the wiring soldered correctly, pin for pin, matching 1 to 1, 2 to 2 and the positive and negative PoE pins, you can now crimp the RJ-45 head on both ends of the long distance cabling.

Step 3 - Connect your remote end LAN devices and you should have LAN data to both units as long as your cabling is soldered correctly.

Performing the On-Site Installation

After removing the Enable-IT 824 Gigabit Ethernet Extender Kit from the box, and performing the Out Of The Box Testing (OOTBT), all that remains to install the unit on-site is to mount the unit, build the interconnect wiring, add voice lines if needed, and attach the LAN device cabling with the provided Ethernet Patch cords.

Mounting the Enable-IT 824 Gigabit Ethernet Extender Units

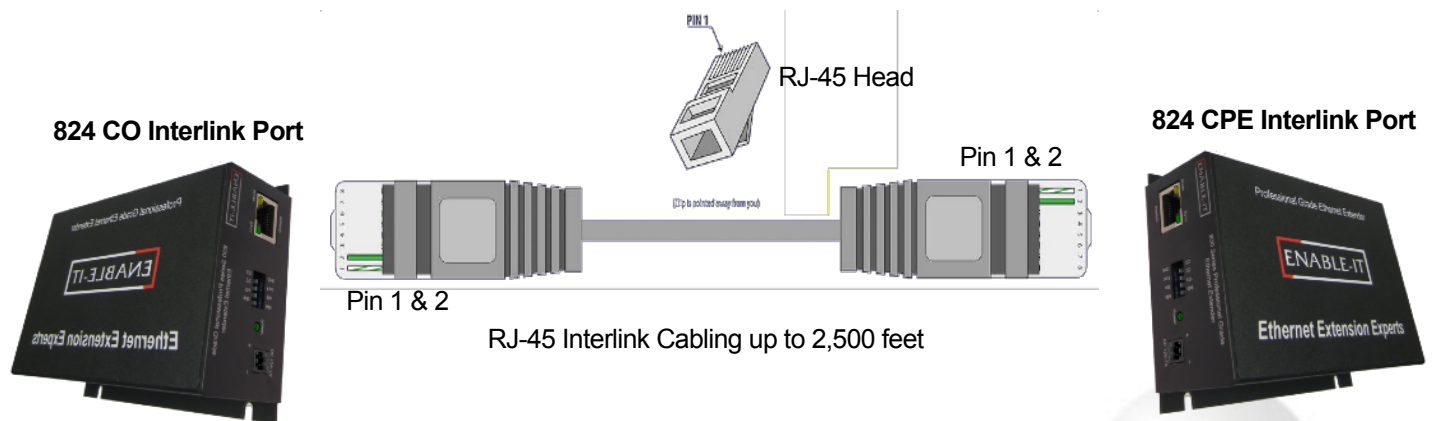
The Enable-IT 824 extended Ethernet solution is designed for quick wall mounting. Choose a location to mount each of the Enable-IT 824's where the maximum distance does not exceed 3,000ft (914m) total between devices to be connected. When wall-mounting the Enable-IT 824 unit it is recommended that you use the appropriate screw anchors for your mounting surface. If mounting on existing plywood use wood screws; if mounting onto drywall or sheetrock, use plastic drywall anchors to secure your installation.

Building the 824 Interlink Wiring

The most important aspect of the installation is the correct wiring of the Interlink cabling.

The 824 Interlink port (RJ-45 interface) carries this 1-pair signaling over the RJ-45 (pins 1 & 2) - used as transport. If you use more than 1-pair of wiring, such as a CAT5 segment, the remaining RJ-45 pins can transport native 802.3af / 802.3at PoE, or are unused.

For all wiring you will need to crimp a RJ-45 Male head to each end of the contiguous wire run and using the following (pins 1 & 2) straight through. We recommend using a category rated twisted pair cable as it is optimized for high throughput frequencies isolated from cross-talk noise. Insert the completed RJ-45 ends into the 824 Interlink port on each 824 unit.



Cabling Devices to The Enable-IT 824 Extended Ethernet Kit

Attach your remote LAN device to the 824 CPE unit LAN ports with Ethernet patch cord provided. Attach your local LAN to the 824 CO LAN ports with Ethernet patch cord provided. Attach the power adapters to both 824 units.

Attach your local Interlink cabling end to the 824 CO unit Interlink port – Then do the same for the remote end and plug into the 824 CPE unit Interlink port. The Interlink side Green Sync LED should be solid, indicating it sees the remote partner. There is no sync delay! Your equipment should now be powered up and functioning. LED indicators will provide visual operational status of the 824 units.

Troubleshooting

First examine the backbone wiring pair and make sure you have solid connections. The Interlink Sync LED will be lit solid Green on each 824 unit. The units sync instantly and have no delay. If either fail to light up.... Then follow the steps below:

- 1) Make sure your wiring is straight through and not connected to any Telco punch down blocks; If so remove from the block and use Telco butt clips to bridge wire.
- 2) Check for a firm connection of the RJ-45 connections in each 824 unit, and power is applied to the 824 CO & CPE units.
- 3) **You can easily isolate any issue by performing an Out Of The Box Test (OOTBT). This test will confirm the correct working order of your Enable-IT 824 Gigabit Ethernet Extender Kit. This will point to a possible issue with your long distance Interlink wiring being affected by possible outside interference.**

DIP Switch Details

By Default the DIP switches are set out of the box for plug and go operation. There is no reason to ever touch or change the DIP switches for basic Ethernet Extension and they are provided for PoE Feature sets and troubleshooting.

- Switch 1: CO / CPE Mode

CO Mode – Up / **Off** Position

CPE Mode – **Down** / **On** Position



The terms CO and CPE are used to identify the role of the 824 Unit. Central Office Equipment (CO) is generally the equipment residing at the Carrier Telephone office or the head end of a circuit. Customer Premise Equipment (CPE) is generally the equipment residing on the customer side of a circuit. Typically you would place the CO at the local end and the CPE at the remote end for reference only. CO's only communicate with CPE's.

- Switch 2: Not Used
- Switch 3: Not Used
- Switch 4: Not Used

TECHNICAL SUPPORT

Enable-IT, Inc.'s Customer Care Team support is available directly to customers and distributors. All support requests are processed through the online support portal. This allows us to provide assigned support ticket numbers in order to bring closure to any technical issues.

Online Technical Services

The Enable-IT Support Portal is available 24/7 to open a ticket or check the status of one. Please use this support website as your first source for help as it contains an on-line knowledge base of articles, documentation, FAQ's and other problem-solving resources. This web-based support resource provides the quickest solution to the most common technical support issues.

World Wide Web Site

<https://support.enableit.com>

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Enable-IT warrants to the original purchaser of the Product ("you" or the "End User") that, for the limited lifetime period commencing on the date the Product was purchased (the "Warranty Period"), the Product will be substantially free from defects in materials and workmanship under normal use and conditions. This warranty does not apply to Products, which are resold as used, repaired or reconditioned. **Electrical or water damage is not covered under this warranty, extended warranties or Advanced Replacement Program (AREP).**

In order to obtain an authorized RMA approval, the End User must complete the required information online located at <https://support.enableit.com>. If you have questions or difficulty completing this information you may contact the Customer Care Team at 888-309-0910 between the hours of 8:00 a.m. and 5:00 p.m. PST.

Please ship Authorized RMAs to:

RMA Warranty Repair Processing Facility
16027 Brookhurst St, Suite i 272
Fountain Valley, CA 92708-1551

Returning Products for Refund

Enable-IT, Inc. offers a generous 45-Day refund on a single Ethernet Extender Kit only, and is subject to a 15% Restocking Fee. Shipments without a valid or authorized RMA number, or sent to our corporate Las Vegas address, can be refused and / or billed for additional shipping.

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In the event of a breach of the foregoing warranty, Enable-IT will, in its sole discretion and at its cost, and subject to the terms of the following paragraph, repair the non-conforming Product, replace the non-conforming Product with a new or reconditioned Product or refund the purchase price for the Product. Any new or reconditioned Product provided pursuant to this paragraph is warranted as provided herein for the remainder of the original Warranty Period. THE REMEDY SET FORTH IN THIS PARAGRAPH SHALL BE THE END USER'S SOLE AND EXCLUSIVE REMEDY FOR BREACH OF THE FOREGOING WARRANTY.

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If authorized by Enable-IT to return a Product which does not conform to the warranty set forth above, the End User must: (1) obtain a return materials authorization (RMA) number from Enable-IT by contacting the Customer Service Dept. at 888-309-0910 between the hours of 7:00 a.m. and 5:00 p.m. PST and otherwise fully comply with Enable-IT's then-current RMA policy; (2) return the Product to Enable-IT in its original packaging freight pre-paid; and (3) provide to Enable-IT the original receipt or bill of sale establishing the date on which the Product was purchased. Products returned to Enable-IT without an RMA number will be returned to the End User. Enable-IT shall not be responsible for damage or loss during shipment of the returned Product to Enable-IT.

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The express warranty set forth above shall not apply to failure of the Product if the Product has been subjected to: (i) physical abuse, misuse, improper installation, abnormal use, power failure or surge, or use not consistent with the operating instructions provided by Enable-IT; (ii) modification (including but not limited to opening the Product housing) or repair by any party in any manner other than as approved by Enable-IT in writing; (iii) fraud, tampering, unusual physical or electrical stress, unsuitable operating or physical conditions, negligence or accidents; (iv) removal or alteration of the Product serial number tag; (v) improper packaging of Product returns; or (vi) damage during shipment (other than during the original shipment of the Product to the End User from Enable-IT, if applicable).

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