



ETHERNET EXTENSION EXPERTS

Enable-IT 870 CPE Gigabit PoE Extender Quickstart Guide



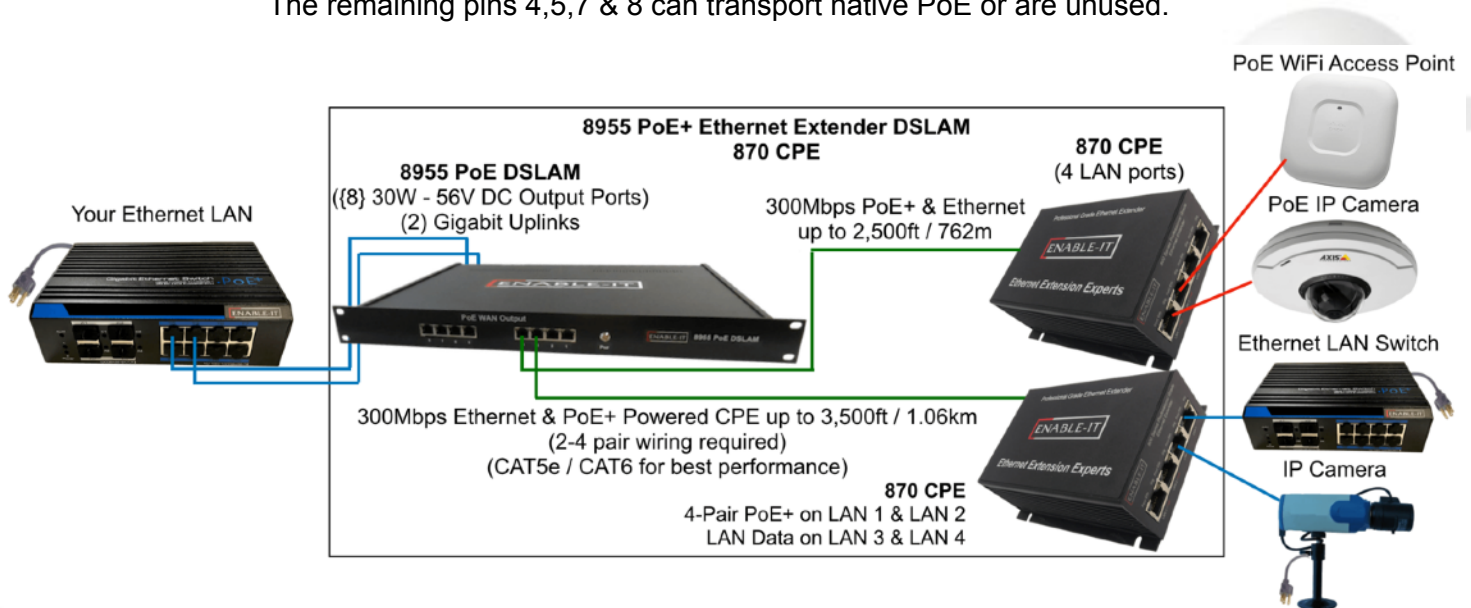
INSTALLING THE 870 CPE GIGABIT PoE EXTENDER

Installation

The Enable-IT 870 CPE Extended Ethernet Units have a distance restriction of 3,500ft or 1,066m over 2 / 4 pair of Category 2 up to Category 5e / CAT6 wiring from device concentrator to remote device. Therefore quick, simple site surveys and installation planning are highly recommended.

- Total distance limitation of 3,000ft or 1,066m from CO concentrator to remote device.
- 2/4 pair CAT-2 wiring or better cabling is required for 870 CPE Interlink transmission.

The 870 CPE Interlink port (RJ-45 interface) carries this 2/4 pair signaling over the RJ-45 pins (1,2,3,& 6) - used for transport dual voice and data lines as well as PoE. The remaining pins 4,5,7 & 8 can transport native PoE or are unused.



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 a quick test to ensure the working order of you 870 CPE units.

Step 1 – use one of the Ethernet patch cords provided and attach to the 870 CPE Interlink port and then to the 8955 DSLAM Interlink port. Power up both 870 CPE units and the 8955 DSLAM Concentrator by plugging in the power cord.

Step 2 – The Green Sync LEDs will start flickering slowly and then fast as the units talk to each other. After a few seconds you should see a solid Green Interlink Sync LED on each 870 CPE unit to confirm a link is established. The 8955 DSLAM will take about 30 seconds to startup then link will be established with the 870 CPE. This confirms basic proper operation of the units.

LED indicators will provide visual operational status of the 870 CPE units.

Mode – Yellow Solid LED
Off = CO unit
On = CPE unit

Sync – Green slow to fast flicker LED on power up – indicates negotiation of a link
– Green solid LED indicates link established and rapid pulse is traffic

Act – Yellow LED
Off = No device attached or detected
On = Solid, indicates the presence of local LAN
On = Blinking, indicates the presence of local LAN traffic

Pwr – Green Solid LED indicates the unit is receiving 12v power

Step 3 – Next for a more detailed test and to confirm your LAN Equipment works with the 870 CPE, connect your Ethernet LAN to the 8955 DSLAM and remote device to the 870 CPE LAN ports and test connectivity. The Green Interlink Sync LED will pulse rapidly as it detects traffic.

Performing the On-Site Installation

After removing the Enable-IT 870 CPE Extended Ethernet from the box and performing the out of the box testing 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.

❶ Building the 870 CPE Interlink wiring

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

For all wiring you will need to crimp a RJ-45 to each end of the contiguous wire run and using the following pins (1-8) straight through. This will deliver dual voice and data lines as well as PoE. For 2 pair wiring crimp RJ-45 pins (1,2,4+,7-) straight through. This will deliver 1 voice / data line as well as 1 PoE pair.

❷ Attaching cabling and devices to the Enable-IT 870 CPE Extended Ethernet.

Attach your remote LAN device to the 870 CPE unit LAN ports with Ethernet patch cord provided. Attach your local LAN to the 8955 DSLAM LAN ports with Ethernet patch cord provided. Attach the interlink cabling between 8955 and 870 CPE units and power injector to the 8955 DSLAM. Your equipment should now be powered up and functioning.

❸ For troubleshooting, first examine the backbone wiring pair and make sure you have solid connections. The Interlink Sync LED will be lit solid Green with rapid pulsing on each 870 CPE unit to show proper connection and pairing. If the Interlink Sync LED Link is flashing slow to fast and never goes solid Then follow the steps below:

- 1) Make sure your wiring is straight through and not connected to any Telco punch down block; 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 870 CPE unit and 8955 DSLAM, and power is applied to both the DSLAM and CPE units.
- 3) You can easily isolate any issue by performing an out of the box test confirm either

the 870 CPE or your wiring. It is possible an outside interference has been introduced into your wiring.

Performance Settings (DIP Switch)

If you are experiencing performance issues with your Ethernet connection you may use the following DIP switch settings to adjust your application. For DIP switch 2-4 you must toggle both symmetrically, in other words the CO and CPE must match. If you turn DIP switch 3 Up (Off) on the CO, then you must do so for the CPE and vice-versa.

- Switch 1: CO / CPE Mode
CO Mode – Up / Off Position
CPE Mode – Down / On Position



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: ADSL2+ Mode for distance over 6,000 feet
ADSL2+ Enabled – Up / Off Position
ADSL2+ Disabled – Down / On Position (Default)

ADSL2+ mode works better for long distance wiring although throughput is significantly reduced.

- Switch 3: 17a (over 2,000ft) / 30a (under 2,000ft) Mode
17a Mode – Up / Off Position
17a mode is only used for Interlink runs over 2,000ft to 6,000ft.
30a Mode – Down / On Position (Default)
30a mode is only enabled for Interlink runs under 2,000ft.
- Switch 4: Signal-to-noise Noise Ratio (SNR)
9dB – Up / Off Position
6dB – Down / On Position (Default)

Signal-to-noise ratio is a measurement that refers to how much noise is in the output of a device, in relation to the signal level. If you experience issues of noise bleeding over the lines, or high interference in your environment, it is suggested that you switch to 6dB SNR. This may help clean up any noise bleeding over your cabling.

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World Wide Web Site

<http://support.enableit.com>

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Please ship Authorized RMAs to:

Enable-IT Processing Facility
16027 Brookhurst Street Suite i 272
Fountain Valley, CA 92708-1551

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