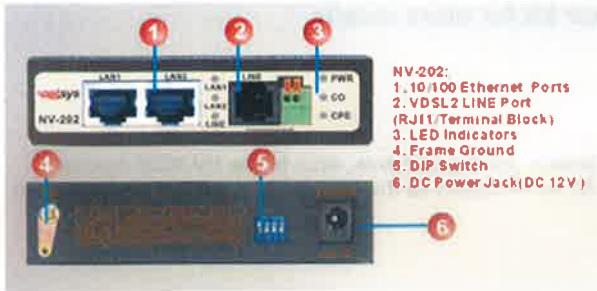




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HyperXtender ER Ethernet Extender Kit NV-202EKIT Quick-Start Guide

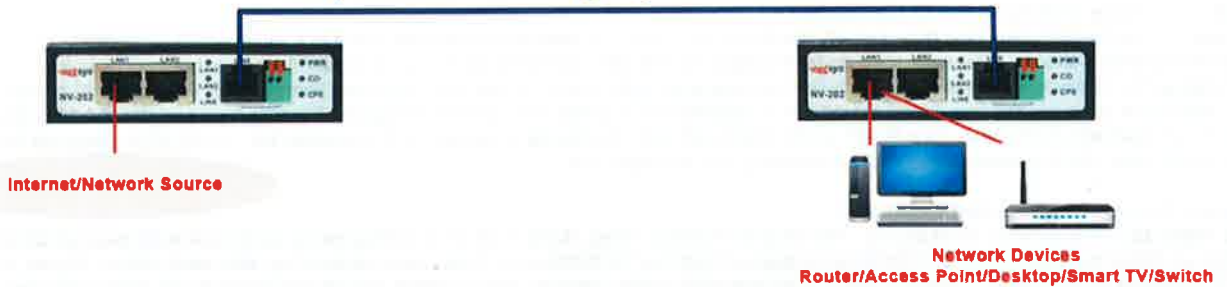


Please see Page 8 of the User's Guide for the pre-installation requirements.

DIP Switch Settings (Figure 1):

DIP Switch settings are preconfigured for plug n' play operation and DO NOT need to be changed. One unit is configured as the LOCAL/CO and one unit is configured as the REMOTE/CPE. Please refer to page 18 of the User's Guide for more information on DIP switch settings.

Single Twisted Pair Network Grade Cable/Phone Line (Up to 10,000')



LED	Color	Status	Descriptions
PWR (Power LED)	Green	On(Steady)	Lights to indicate that the VDSL2 bridge had power
		Off	The device is not ready or has malfunctioned.
LAN 1-2 (Ethernet LED)	Green	On(Steady)	The device has a good Ethernet connection.
		Blinking	The device is sending or receiving data.
		Off	The LAN is not connected.
CO (Local Side) (CO LED)	Green	On(Steady)	Indicate the VDSL2 bridge is running at CO(Master) mode.
CPE (Remote Side) (CPE LED)	Green	On(Steady)	Indicate the VDSL2 bridge is running at CPE(Slave) mode.
LINE (VDSL LINK LED)	Green	On(Steady)	The internet or network connection is up.
		Blinking slowly	The CO device is auto-detecting CPE device.
		Blinking fastly	1. The CO device has detected a CPE device and ready to connect. 2. The device is sending or receiving data.
		Off	The Internet or network connection is down or has malfunctioned.

Installation Instructions:

- Locate the Local Unit at the origination (network side) point and locate the Remote Unit at the destination (remote side) point.
- Connect one (1) twisted-pair of phone or network grade cable (not to exceed 10,000 feet) from the Line Port (RJ-11 Jack or Terminal Block) of the Local Unit to the Line Port (RJ-11 Jack or Terminal Block) of the Remote Unit. See details in Appendix A (Page 2) on the different methods used to make this connection.
- Connect Ethernet Port (LAN1 or LAN2) on the Local Unit to the appropriate network device (gateway, router, switch, etc.) using provided RJ-45 Network Patch Cable or equivalent.
- Connect Ethernet Port/s (LAN1 and/or LAN2) on the Remote Unit to the appropriate remote network device/s (PC, wireless access point, IP camera, etc.) using provided RJ-45 Network Patch Cable or equivalent.
- Connect provided power supplies to Local and Remote Units and plug into a reliable AC power source.
- The Local and Remote Units should power up and attempt to link and pass data. Please refer to the below LED Indicator Chart to verify proper operation.



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This guide provides a quick reference for installing the Netsys NV-202EKIT.
Please refer to the user's guide included in your kit for more details.

LAN Port Connections:

- The RJ-45 LAN ports are used for connecting network devices (routers, switches, WIFI access points, cameras, etc.) to the NV-202E modems.
- **A link between the NV-202E modems CAN NOT be established through the LAN ports.** All connections to the LAN ports must be under 328 feet (100m).

FAQs:

Q: Can I connect the NV-202E units through their Ethernet ports?

A: No, the NV-202E units must be connected using the RJ-11 Line ports or the terminal block.

Q: What if my cable ends have RJ-45 connectors?

A: You have several options. You may cut off the RJ-45 end and run one of the twisted pairs (i.e. blue/white blue) from NV-202E to NV-202E directly through the terminal block. You may also re-terminate one pair on the center two pins of a RJ-11 connector and connect the units through their RJ-11 Line ports. Finally, you can use two RJ-45 couplers on either end of the line. Connect the coupler to the RJ-45 connector on either end of the line and then connect the two short RJ-11 patch cables to the other end of each coupler. Finally, connect the RJ-11 patch cables to the RJ-11 Line ports of each NV-202E unit. The RJ-11 patch cable will not fit exactly into the RJ-45 coupler, but it will click securely in place and push down any pins that aren't being used, effectively isolating out a single pair.

Q: Why aren't my NV-202E units linking up?

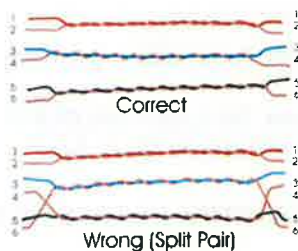
A: This could be for a number of reasons. The line may be too long, there may be a wiring issue such as a split pair condition, the line may be damaged, or there may be noise or interference preventing the NV-202E units from communicating with each other. If you are unable to get the NV-202E modems to link up with each other, try connecting them "back-to-back" using one of the short RJ-11 patch cables included in the kit. If you are able to get a link over the short cable, then you likely have a line condition preventing communication. If the units do not link up over the short cable then one or both of the NV-202E's may be faulty.

Q: My NV-202EKIT will link up but my connection speed is slow or my link drops out occasionally. Why?

A: This is likely due to a line condition such as a split pair (for more on split pair conditions, please see below). Other common line issues include poor quality terminations, ungrounded or improperly grounded shields, water-permeated cables/conduits, or excessive noise or interference on the line.

Q: What is a split pair condition?

A: One of the most common problems encountered when installing Ethernet extenders are split pairs. All Netsys Ethernet extenders that run over network-grade cable or existing phone wiring require a twisted pair to carry the signal. Like it sounds, a twisted pair is two wires twisted together, and the majority cables have multiple twisted pairs in them. Twisting the wires together helps to eliminate electrical noise entering into and leaving the cable and helps minimize cross-talk (signals leaking between wires in a cable). A split pair is when one wire from one pair gets swapped with another wire from a second pair at both ends of the cable. A split pair negates the effect of having a twisted pair and renders the cable unsuitable for carrying broadband data. The symptoms of a split pair can vary depending on the length of the line with the split pair and the quality of the cable, ranging from the Ethernet extenders linking but passing data very slowly to unstable links to no link at all. See the diagram below for an example of a split pair.



Because most cables have multiple twisted pairs, split pairs are a common error that can be easy to make, but more difficult to detect due to the fact that continuity, resistance, and insulation tests will not detect a split pair. The easiest way to check for split pairs is to do a visual inspection of the terminations along the length of the cable. There are also several testers available that can check for split pairs, although they are specialized and can be expensive. If you are unable to get your Ethernet extenders to link up and pass data normally when installing them, try linking them up over a short run of cable in a testing environment to make sure they are working first, and then check your terminations to make sure you have the correct two wires (the two that are twisted together) punched down on the correct pins throughout the length of the line. Remember, just because a pair has continuity does not mean it is wired correctly!

Thanks for choosing Netsys-America, LLC for your Ethernet Extension needs! Please refer to the user's guide included in your kit for additional information. For support, please email us at support@netsys-america.com or call us at 1-877-638-7971 (office hours are 9AM-6PM Eastern). Thanks!