



Twisted Pair Ethernet Bridge



Phone line Ethernet Bridge Overview



■

Twisted Pair HomePlug Ethernet Bridges are a network interface adapter which operates using standard twisted pair cabling. This can be a pair of wires from Cat5 cabling or twisted pair telephone wires (and, when using telephone wires, you can still use the wires for normal talacoms at the same time as network dataq!). This technology offers users a wide range of networking options enabling up to 500Mbps (backbone PHY rate) of "traffic" between nodes within the network. The Longest transmission distance can be up to 1.5Km.

Solwise

- 1. **no extra wiring:** Use the original telephone line or any existing twisted pair wires e.g. could be unused pair in existing lan cables. Even if the telephone wires are in use you can still overlay the network traffic onto the wires.
- 2. **Large application :** such as hotels, military bases, schools and other large-scale use of the unit switchboard system. Building to building or internal connections where there are existing wire pairs in place (for example telephone extensions). Even in the home!

Twisted Pair Ethernet Bridge

Very good availability in buildings

High bandwidth availability, even if lines are used simultaneously for telephony

Transmission rate: up to 95Mbps TCP

Range: 1500meters

Stable transmission

Security

low power consumption

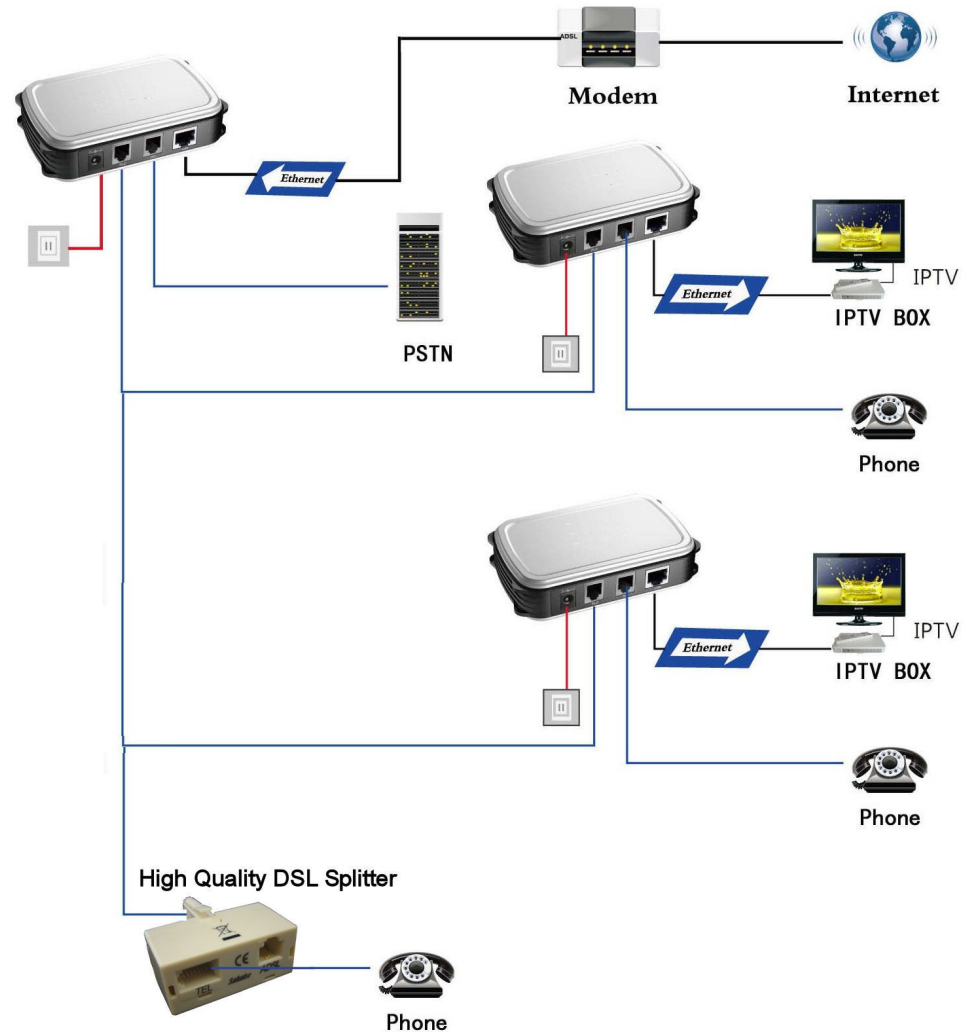
Lower installation cost

Solwise Common mode

- Peer-to-Peer network
- Up to 16 units on the same wires
- All units 'share' the same connecting wire
- Twisted pair can be an unused pair or an active, existing, telephone extension
- No network isolation between units
- Lower cost units; cheaper entry
- Ideal for home or small site applications where there are existing telephone extensions
- Ideal for network connectivity to on-site remote buildings
- Active telephone extensions where a unit is not required just need a 'quality' DSL splitter to separate the signals

In house Testing for TCP Throughput

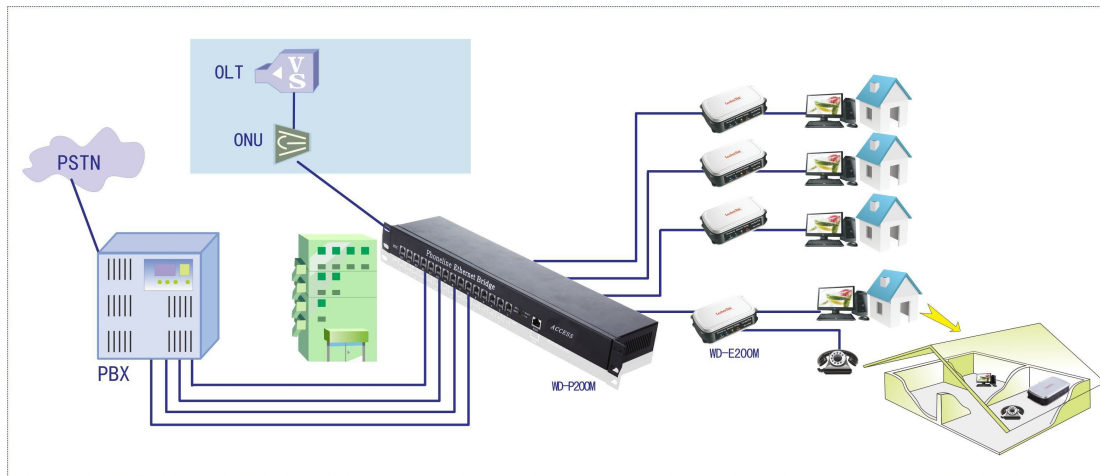
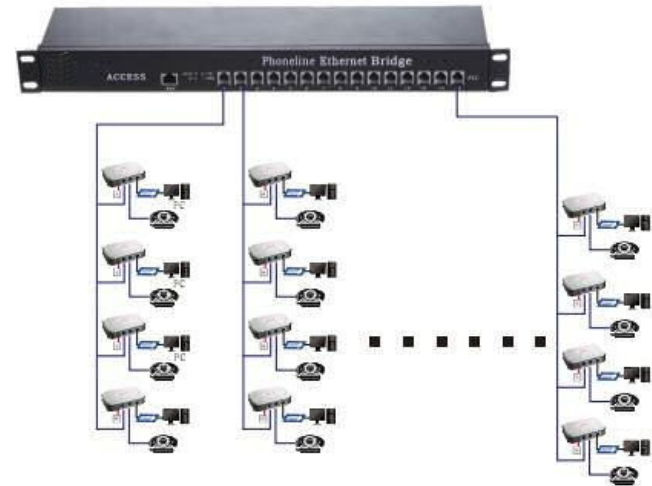
- Direct (4m of twisted pair) 95Mbps
- 200m twisted pair 71Mbps
- 500m twisted pair 25Mbps
- 700m twisted pair 15Mbps





Master/Slave mode

- As 'common' units BUT the units are slave units and controlled by a master unit.
- Allows 63 slaves running from one master
- Infrastructure network traffic; network traffic is only between slave and master
- User-to-User network isolation between slave units
- Better QoS
- TP-P500M is a master unit with 15 telephone sockets in and 15 out so you can run 15, separate telephone extensions
- TP-P500M support can support up to 16 slave units on each twisted pair out port but only up to 63 slaves in total however, note performance will be reduced with high numbers of units
- Ideal for hotels, BnB, holiday parks, static 'van sites, lodge sites etc...





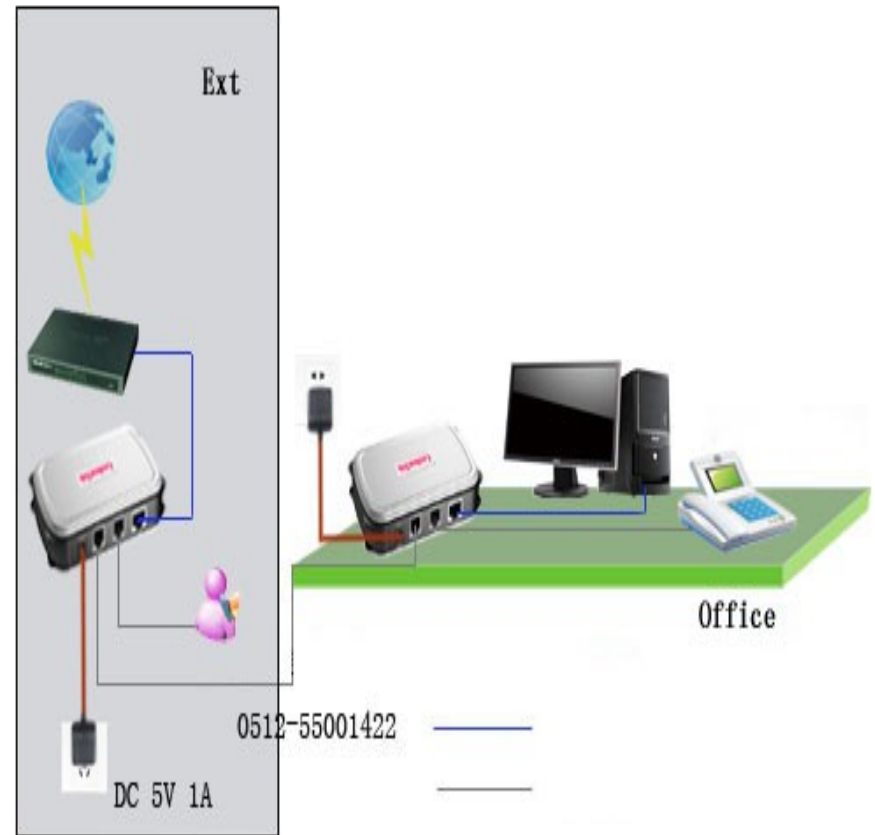
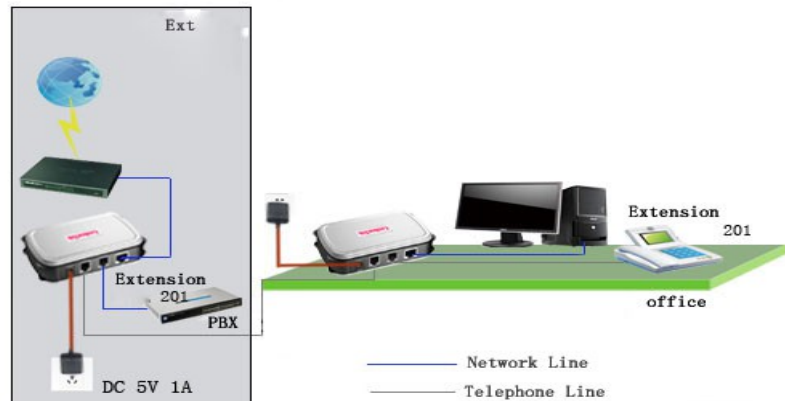
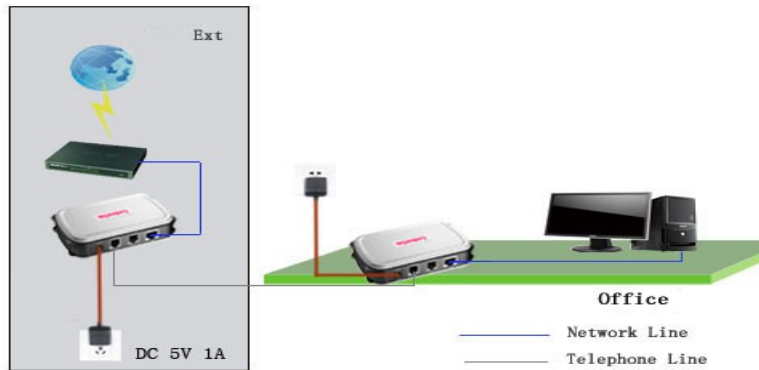
PL-TP-E500C Twisted Pair ethernet bridge overview

- Network Standards :
HomePlugAV IEEE802.3 - 10M Ethernet
IEEE802.3u - 100M Fast Ethernet
IEEE802.3x
- Connectors
Ethernet : One RJ-45 Ports
HomePlugAV : Two RJ-11 Ports, One for PLC, the Other One for Phonenumber By-Pass
- Transmission Speed • PHY Rate 500Mbps (2 – 68MHz), up to 95Mbps TCP
- Indicators: "Power" LED , Ethernet "Link/Activity" LED, PLC "Link/Activity" LED,
- Power Requirement Power : 12 VDC
- Consumption : < 3 W
- Environmental Conditions
Operating Temperature : -10°C~ 50°C
Storage Temperature :-10°C~ 60°C
Operating Humidity : 10% ~ 95%, Non-condensed state
- SIZE: 120mm (W) x 75mm (D) x 30mm (H)
- Certification: FCC, CE, RoHS
- Supports up to 16pcs on the same wire with in 'common' mode
- Support integrated delivery of quality assurance (QOS) features and functions of Multicast and IGMP





Simple examples





Twisted Pair Ethernet Bridge(master)

- Typically used over existing phone lines (extensions) where the extensions are running from a local PBX.
- The network signals can be sent over active telephone wires or over unused pairs present in the telephone cabling
- Master unit has 15 ports for the raw telephone connections coming in (so these would be the extensions coming out of the PBX) and then 15 out ports which consist of the telephone signal overlaid with the network signals.
- At the remote extension use a 'slave' TP unit to extract the network signal back to a normal RJ45 and, if an active telephone wire was used, the telephone signal is presented on a general RJ12 port.
- The transmission distance can be extended up to 1500 meters
- Up to 16 slave units per port up to a total limit of 64.
- Up to 95Mbps TCP throughput
- Main Applications: hotel, BnB, restaurant, holiday sites, factory, enterprise, office network construction etc... Ideal for distribution of network for IPTV, Internet, VOD etc

