

Residential/Commercial UPB Benefits - Retrofit

Written by Carl Holden

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Communications

- Wireless- retrofit table
- Single Phase/ Three Phase independent –PLLC 3 x Phase repeater available
- No central controller needed - distributed intelligence and memory
- 65536 possible network (house) addresses
- 65536 possible device addresses
- Two-way communications

Cost

- Inexpensive – No Need for new or additional wiring

Speed

- Physical Baud rate of 480 bits/sec
- .2 sec command response time, 5 times faster than X-10
- Data transmission rate 30 times faster than X-10 (400 bits/sec)

Reliability

- Over 99.9% reliable

Compatibility

- Will not interfere with X-10, CEBUS, Echelon technologies

Simplicity

- Uses off-the-shelf components
- Easily meets all EMC requirements
- Minimal load on power supply
- Minimal PCB space required

Proprietary

- Patents
- Trademarks
- Copyright

International Applications

- Technology is suitable for 240V 50HZ single phase operation.
- Commercial applications designed for up to 277V 3 phase

Agency Compliance

- Meets FCC/EMC Australian requirements
- Meets UL requirements
- No New Wires – 100% powerline communication, no new wires.
- Two Way Communications – Hardware, software and protocol design allow for two-way communication in all products.
- House Separation – Multiple houses on one transformer will be separated by means of an addressing scheme allowing for at least 256 systems (houses) on each transformer. UPB system incorporates over 64,000 total address space vs 256 for conventional X-10. There will also be applicable encryption incorporated into the DLL layer and if necessary at the higher network layers.

Residential Topography

The following diagram illustrates a typical residence showing the different communications channels. Two channels of communication from the gateway to the devices in the home. A high-speed channel that provides for basic Internet browsing, email, audio, video, telephone, etc. This channel must be fast enough to keep up with the gateway-to-internet speed.

(Click on Image below to Enlarge)

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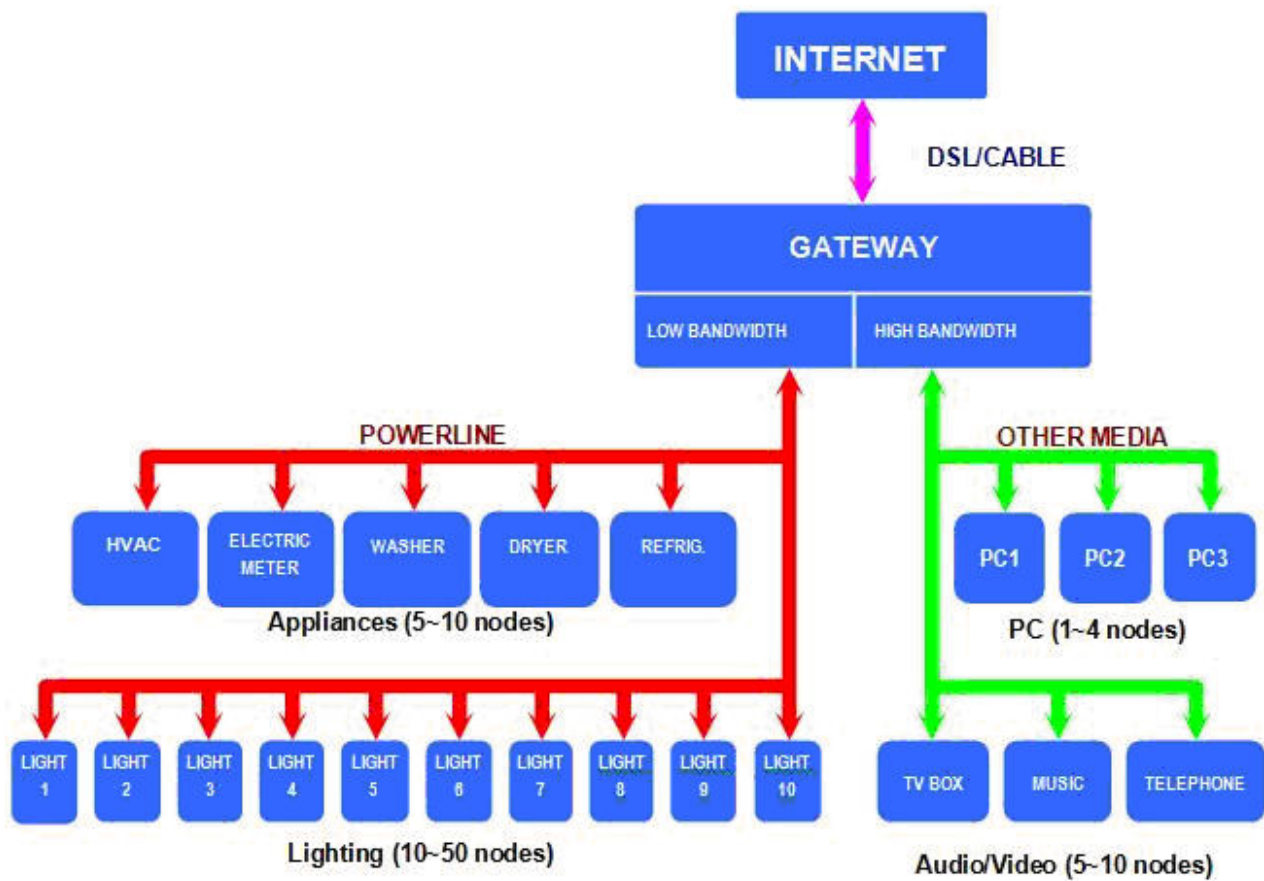


Figure 2: Topology of Residential Communications Channels