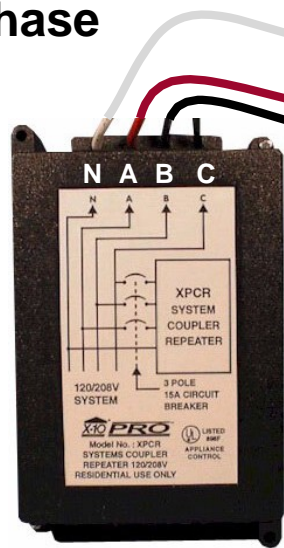


# Phase Coupler/Repeater

# XPCR

## Split-Phase

120/240V



Neutral

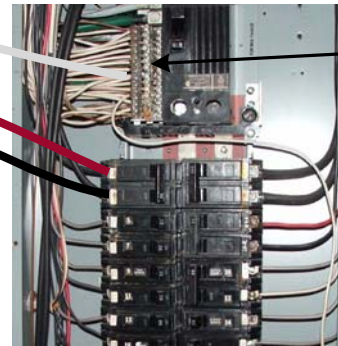
A / L1

B / L2

Cap-off  
2nd Black  
Wire for  
Split-  
Phase

1 5/8" D x 3" W x 4.75" L

## Typical Split-Phase Breaker Panel



Neutral  
Bus Bar

**For 3-Phase System:  
attach 2nd Black wire to C / L3**

**Description:** The X10 PRO Phase Coupler/Repeater serves as a signal-bridge across Split-Phase and 3-Phase Power Systems. The XPCR accepts X10 Controller Commands from one phase (L1), regenerates the X10 Command to full signal strength and repeats it to the other phase (L2) and/or phases (L3). The XPCR performs this function in any directions, i.e. - (L1 to L2/L3 or L2 to L1/L3, or L3 to L1/L2). The XPCR's Red LED indicator illuminates when an X10 Command is sent by an X10 Controller and repeated by the XPCR. The XPCR is NOT a filter. The above drawing is a simple representation of the XPCR's basic elements of installation. See note below.

**Note:** Installation must be performed by qualified installers only. The main breaker must be turn-off during installation. The coupler must be installed in a suitable workbox or enclosure per local code. Installation must be in accordance with all applicable codes and requirements, including, but not limited to, the National Electrical Code (NEC).

### Specific Requirements: 240VAC or 120/208VAC

Split-Phase System 120/240V - L1, L2 (cap off last black wire C)

3-Phase System 120/208V (WYE) - L1, L2, L3 (NOT FOR 3-PHASE DELTA Systems)

Generally for residence 2000-2500 Sq Ft or larger. Homes with an abundance of electronic devices will be served better with the increased signal strength of the XPCR.

### Typical Terminology

N - refers to Neutral

A - sometimes referred to as Phase A or L1 (line 1)

B - sometimes referred to as Phase B or L2 (line 2)

C - sometimes referred to as Phase C or L3 (line 3)

### Optional / Supplementary Devices & Modules:

XPPF & XPF Filters to reduce interfering noise from electronic devices.

### Electrical Protocol:

Nearly all residential homes are wired SPLIT-PHASE. Each 120V Phase is NOT directly connected with the other 120V phase. If after installation, an X10 Receiver does not respond to a remote Controller, then check to ensure that the breaker serving the X10 Receiver is on the same phase as the Controller. If not, the breaker can be changed to the opposite phase. An alternative solution is recommended, to install a Phase Coupler for improving remote communications throughout the home. See [www.x10pro.com](http://www.x10pro.com), then select Technical Support and PLC Troubleshooting.

### Installation:

1. Turn-off power at the MAIN Breaker Panel.
2. Install the XPCR into a suitable workbox or equivalent enclosure.
3. WHITE wire - connect to the Neutral BUSS Bar.
4. RED wire - connect to L1 breaker terminal.
5. BLACK wire - connect to L2 breaker terminal
6. BLACK wire - cap-off if in a Split-Phase system, add 2nd BLACK wire to L3 breaker terminal, if in a 3-Phase system.
7. Check all wires for secure connections and then turn-on Power.
8. Using any type X10 Controller, execute an X10 ON or OFF Command, observe that the RED LED illuminates, indicating that an X10 Command was detected and repeated.
9. Investing in the X10 PRO Test Equipment, XPTT/XPTR, is an excellent way to ensure that X10 Signal Strength is at the appropriate levels.

**Tech Tip:** See PLC Troubleshooting document, at [www.x10pro.com](http://www.x10pro.com), then select Technical Support. This literature will offer in-depth problem solving techniques using the X10 PRO Test Equipment, Phase Couplers and Filters.

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