# CLAIMS

1. A power line communication system, comprising: at least one parent distribution board and a plurality of child distribution boards, the parent and child distribution boards being electrically connected via a plurality of power lines, each of the parent and child distribution boards including a main breaker, a bus, and a plurality of branch breakers, each of the branch breakers being electrically connected to a secondary side of the main breaker via the bus, a primary side of the main breaker in the parent distribution board being electrically connected to an incoming line of power, and a secondary side of at least one of the branch breakers in the parent distribution board being electrically connected to a primary side of at least one of the main breakers in the child distribution boards via the respective power lines, wherein

the parent distribution board further includes a parent PLC modem electrically connected to the secondary side of the main breaker and a primary side of the branch breakers via the bus,

each of the child distribution boards further includes a child PLC modem electrically connected to the primary side of the main breaker,

the child PLC modems are configured to receive a signal via at least one of the branch breakers in the child distribution boards, amplify the signal, and send the signal via the respective power lines, and

the parent PLC modem is configured to receive the signal via the respective power lines, amplify the signal, and send the signal.

2. The power line communication system according to Claim 1, comprising at least two of the child distribution boards, wherein

the parent PLC modem is configured to relay sending and receiving of the signal between the child PLC modems in two of the child distribution boards.