



How Many Land Line Devices Can I Have?

The voice service available with your fiber optic connection allows you to connect standard telephone devices to your land line number. Most homes have multiple phone jacks throughout the house. While the number of devices you can connect is not unlimited, the Calix networking equipment you have installed can accommodate many devices, depending on the type of device and the amount of phone cabling installed inside the home.

The Number of POTS Devices Supported on a Fiber Connection

Let's start with the ringer equivalence number, or REN. This is a telecommunications measure that represents the electrical loading effect of a telephone ringer on a telephone line. In the United States, ringer equivalence was first defined by U.S. Code of Federal Regulations, Title 47, Part 68, based on the load required by a standard Bell System model 500 telephone.

A REN value of 1 represents the load of a single traditional telephone ringing circuit. Newer POTS (Plain Old Telephone Service) devices – e.g. a single-line push-button telephone using an RJ-11 phone cord, or a cordless phone system with a wired base station and an RJ-11 phone cord connected to the home's POTS telephone wiring – typically have significantly lower REN values. For example, electronic ringing telephones with a dedicated power supply may have a value as low as 0.1, while modern line-powered telephones, in which the ringer is powered from the telephone line, typically have a REN of approximately 0.8.

The Federal Communications Commission (FCC) requires telephone subscriber circuits to support a REN value of 5. Calix ONT (Optical Network Terminal) devices support a REN of 5, with a maximum drop length of 500 feet of attached phone cable within the premises.

What does this mean for the Subscriber?

The POTS line service provided from a Calix ONT should effectively support multiple devices connected to the subscriber line, with some conditions:

- Modern POTS devices typically require less power than traditional telephones, and as such commonly have a REN value less than 1
- A common residential telephone installation includes less than 500 feet of inside wiring within a single home
- The FCC does not require telephone subscriber lines to support a REN value higher than 5

With these conditions, as many as 5 common POTS devices should function normally within a home attached to a Calix ONT. A definitive REN calculation would include the sum of REN values of each connected device, and a determination of the total footage of phone wiring connected to the subscriber line. If this calculation results in a value less than 5, those connected devices should all function normally. In the unusual event you exceed a REN value of 5, a 3rd-party ring booster device may be added to your line to increase the overall REN value supported.