



Q&A

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Q: How do I extend a DID (Direct Inward Dial) line from the telephone company using voice FXO and FXS cards?

A: This connection seems backwards when compared to the OPX line. Remember with a DID line, the telco acts like the switch (FXO) and the customer supplies the battery (FXS). The customer connects the telco DID line to our FXS card and the DID trunk of the PBX to the FXO card. These voice lines originate from telco and terminate into the PBX. They will never originate from the PBX.

When a call comes into the telco's switch with your telephone number, the telco closes a switch connected to your cable pair. This causes loop current to flow from the FXS card. The FXS card sends signal bits across the T1 to the FXO card who then closes his switch causing loop current to flow from the DID interface card on the PBX. The PBX then signals the telco (with a wink) that it is ready for the call. The PBX does this by reversing the battery's polarity. When the Telco sees this wink, the Telco then passes the DNIS digits through the talk path into the PBX. The PBX uses the DNIS digits to route the call to the appropriate phone.

The call can terminate from either end. If the person at the PBX hangs up the loop current (from the PBX to the telco) will stop flowing and Telco will return to an idle condition by opening their switch. The call can also be terminated from the telco side if the incoming caller hangs up. When this happens, the telco opens their switch and loop current stops flowing. The PBX then returns to an idle condition.
