

How to check for Sync at the NID

In order for your DSL service to work properly, your DSL modem must receive a clear DSL signal from the phone company's central office (CO). When the DSL modem and the CO are communicating properly, the modem is said to be synchronized with the CO. When this occurs, the modem is said to be in "sync." DSL modems indicate sync with lights on the front panel. Different modems have different lights that indicate sync, so refer to your instruction manual or call Earthlink technical support to find out what your modem lights should look like when it has sync.

If you are having sync problems, the cause could be one of two things -- either the sync signal is not getting into your home, or the sync signal is dying in the inside wiring of your home.

In order to find out which of the two problems you are having, it is sometimes necessary to check for sync at the NID to eliminate your home's inside wiring as a cause of sync problems. The NID is sometimes referred to as the demarcation point, or "demarc," because it is the dividing point between the responsibility of the phone company and the responsibility of the customer.

If your DSL modem is able to detect a good sync signal at the NID, but not at your phone jacks, then the problem is with the condition of the wiring in your home. The solution can vary from simply moving the DSL modem to a different jack in the house, looking for interfering devices, or running a new phone line specifically for the DSL modem. If you cannot get sync at your NID, then we will need to contact our vendor to troubleshoot your DSL line.



PLEASE NOTE: The methods described in this document will require you to work with your phone wiring. It applies to the most common types of wiring schemes. If at any point, you are unsure of your ability to proceed, please contact a professional telephone wiring technician.

Failure to do so could result in damage to your phone system or loss of phone service. Earthlink assumes no responsibility for your actions or any damage done to your phone system while attempting to follow these procedures.

PART 1 - Locating and identifying your NID

The NID is usually a grey box of varying sizes. In most recently built homes, they're usually placed on the outside of the home in an area that would be easily accessible for a phone technician. Older homes sometimes place the NID inside, usually in the basement.

FOUR POST NID



This is an older type of NID. It is usually about 2 to 3 inches square. The front cover is usually held on by a screw in the front of the faceplate, and should be easy to remove. Checking sync on this type of NID is more difficult than on a new-style NID.

In most locales, the phone company should replace this NID with a new NID that has a test jack inside, free of charge. If you have this type of NID, you should consider contacting your phone company to see if they will replace it for you.

NEWER-STYLE NID WITH RJ-11 TEST JACKS



Newer NIDs come in various shapes and sizes, but in general, they're larger boxes than the 4-post NID. They usually have hinged doors. Quite often, there is a section that is locked on the inside of the NID. The locked section is property of the phone company,

and no attempt should be made to open it. In addition, there could be electrical systems inside that could be dangerous inside the locked side.

OTHER TYPES OF NIDS

This document describes the process to check sync on the two most common types of NIDs. However, some buildings, especially apartments, may have other types of wiring schemes. These include NIDs that service multiple units. Devices called 66-blocks are commonly used for these types of buildings. Some businesses have digital PBX systems installed.

It is not recommended that you proceed with a sync test if your home is serviced by a NID not described in this document. Please contact your building or apartment management, or a telephone wiring technician for assistance.

PART 2 - Functions of a NID

When the phone company delivers a new phone line to your home, they connect a pair of wires from their Central Office to the NID at your home. Once the connection is made at the NID, it is the responsibility of the customer to connect their inside wiring and phone jacks to the new line. This is often done by professional wiring technicians.

The process of adding DSL to your phone line is somewhat similar, except that the phone company does not need to run a new pair of wires for the DSL signal. In the Central Office, the splice a wire pair from a DSLAM onto your existing voice wire pair. Because the ADSL signal is on a very high frequency, it is above the range of human hearing. In theory, any phone jack that has a dial tone on the DSL phone number should have a DSL signal. Sometimes, the inside wiring is of sufficiently poor quality to block or interfere with the DSL signal.

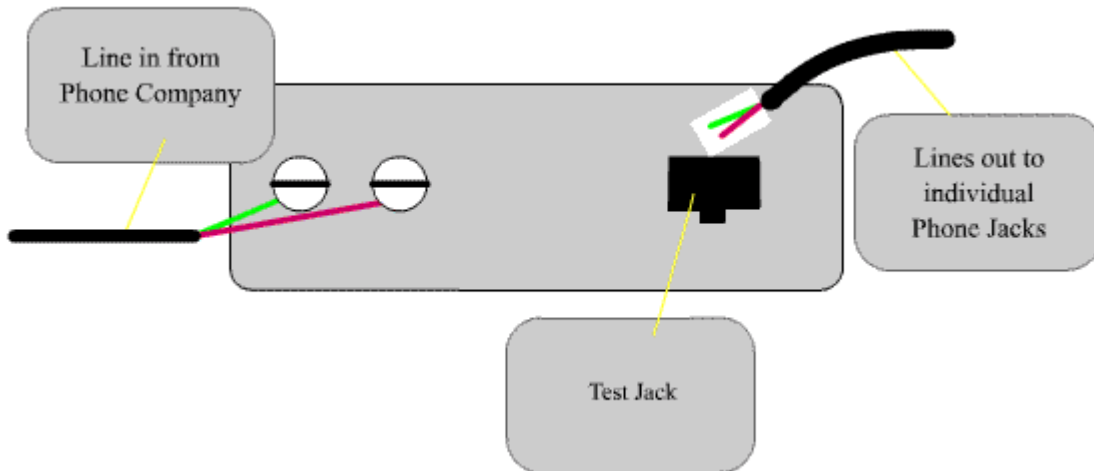
In addition to the connection to the Central Office, the NID is also the connection point for all the phone jacks in your home. Sometimes, each jack is connected directly to the NID (known as a "Home Run") and sometimes there is a continuous loop connecting all the phone jacks on a single cable.

The function of the NID is to connect the inside wiring to the line that the phone company delivers.

PART 3 - Checking for sync at the NID

Checking for sync at the NID requires connecting the DSL modem directly to the line coming from the phone company at the NID, thus bypassing all inside wiring.

CHECKING SYNC ON A NEW-STYLE NID



These NIDs include an RJ-11 (standard) phone jack in them for testing purposes. This makes checking for sync a relatively simple matter. It should not be necessary for you to work with any of the individual wires in the NID. Doing so could interfere with your dial tone and require a technician from the phone company to fix it.

You will need:

- Your DSL Modem
- An RJ-11 (standard) phone cord
- A power extension cord long enough to reach your NID from a power outlet

Your NID will have a connection that looks similar to this diagram. There will be a phone jack for each active line in your house, with a short phone cord plugged into it. The jack is known as a "test jack," and the phone cord connects your inside wiring to the phone company's wiring. When you remove the cord from the test jack, all of your phones in your home that are connected to that phone line will temporarily lose service.

Take your DSL modem to the NID, using the extension cord to supply power to your modem, if necessary.

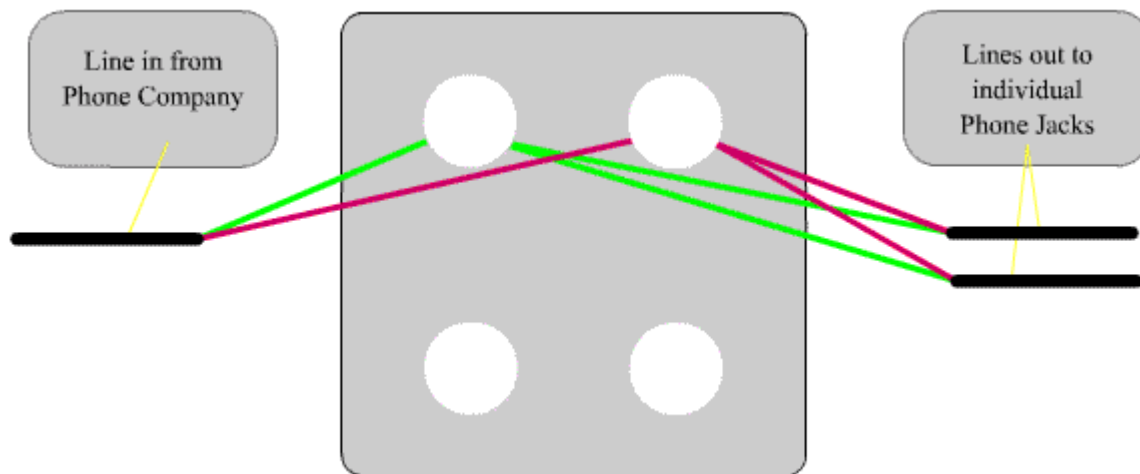
Disconnect the cord from the test jack. Plug the phone cord from the DSL modem into the test jack, and wait for about a minute. Watch the lights on your modem, and record

exactly what they do and for how long. This information will be important for Earthlink's technical support to properly diagnose line problems. Watch for lights that flash, change colors, are on and solid, or off altogether.

To reconnect your inside phones, disconnect your DSL modem and plug the short cord back into the NID.

If your modem cannot get sync, and you have more than one phone line in your home, repeat this process for the second line.

CHECKING SYNC ON A FOUR POST NID



Checking for sync at a Four-Post NID is more difficult, because you do not have the benefit of a test jack. The process is similar to checking for sync on a new style NID, except that in order to connect the phone line to the posts on the NID, you will need to remove one end of a phone wire.

Before going through this process, it is recommended that you contact your phone company to find out their policies on replacing your four post NID with a newer NID with a test jack on it. Most phone companies will replace it free of charge, in which case it is recommended that you allow them to do this.

However, if you would like to proceed with the sync test on this type of NID, you will need the following:

- Extra RJ-11 (standard) phone cord that you will not need (this process will make the phone wire unusable)
- Your DSL Modem
- A power extension cord long enough to reach your NID from a power outlet
- Wire cutters

Using a set of wire cutters, remove one of the RJ-11 connectors from one end of the phone wire. When you peel away the outside casing, you will find four wires of different colors. Strip about 1/2" to 1" of the insulation from the middle pair of wires, which are usually red and green.

In the NID, you should find that other Red and Green wires have been connected there. Attach the red wire to the post with the other red wires, and the green wire to the post with the other green wires. If the NID was wired with different colors of wires to each post, you may need to experiment a little to find the correct wire pair.

Plug the other end of your phone cord into your DSL modem and see if it gets sync.

Interpreting the Results of this Test

If the DSL modem is unable to get sync at the NID, then there is a problem with the provisioning and/or delivery of your DSL line. Please contact Earthlink's DSL installation support so that we can contact your DSL vendor and troubleshoot your line. At this point, there is nothing more that you need to do. The vendor will be contacted and notified of the problem, and we will proceed according to their recommendations. During the troubleshooting process, you may be asked to repeat this test.

If the DSL modem does get sync at the NID, but not inside your home, then there is a problem with the inside wiring that is interfering with the sync signal. Make sure that there are no filters or splitters between the DSL modem and the wall jack, and that there are no halogen lights or 900 MHz phones nearby (they can interfere with the signal.) Try plugging the DSL modem into a different phone jack to see if it gets sync.

Ultimately, the best way to solve a problem with inside wiring is to contact a professional phone wiring technician and have them add a new phone jack, in a configuration called a "home run" using CAT-5 wire. A home run wires the new jack directly to the NID and bypasses the rest of the inside wiring, and is usually successful in solving inside wiring problems.

Earthlink does not provide installation technicians, however, we have created a list of Preferred Installation Companies that service your area. If you need the services of a professional technician, you are welcome to schedule an appointment with any of the installers on the list, or feel free to call another company of your choosing. All scheduling and billing arrangements for the Professional Installation are independent of EarthLink. Please note that EarthLink does not recommend one installation company over another. We have merely provided a list for your convenience.

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