

Dialer

Installation & User's Guide

Introduction

This dialer makes it easy for you to save money on phone calls. It's easy to install and use, and works for all the phones plugged into the same phone line as the dialer.

How the dialer works

The dialer simplifies using alternative long distance services by automatically dialing the extra digits normally dialed by hand. Some of these services, such as 1010 dial around services, require you to dial some extra digits before dialing a long distance number. Other services require you to dial an access number, wait for a tone or a voice prompt, and then dial a PIN. There would usually be another tone or voice prompt, after which you would dial the number you wanted to call. Then your call would be connected.

The dialer lets you dial normally, and then the dialer dials all the right digits automatically. Once you've finished dialing, you can hear the dialer dialing, and for some services you'll also hear voice prompts. You just wait for the dialer to finish, which is followed by the sounds you normally hear when you make a call, such as a ringing signal, a busy signal, or someone answering the call.

There is one other thing you should know about your dialer. Before the dialer can work, it needs to be activated by your service provider. The activation configures your dialer for your location and calling plan. Your service provider will activate your dialer by a remote download.

Setting up and using the dialer involves these easy steps:

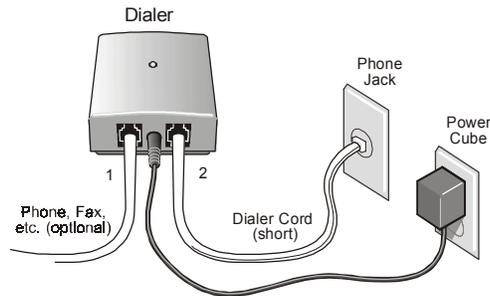
1. Install the dialer.
2. Once the dialer is installed, make sure that the service provider knows so he or she can call the dialer and load it with information about routing your calls.
3. If necessary, tailor the dialer to a special situation.
4. Use the dialer.

1. Install the dialer

First find a suitable location for the dialer. This location needs 3 things:

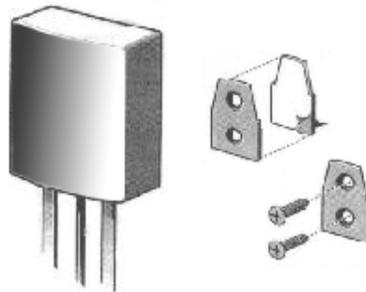
- i) A standard phone jack connected to the phone line you want to use for your dialer. It's okay if there's something plugged into that jack, since the dialer has an extra jack for that situation. (The dialer should not be used on a phone line that has ADSL service for high-speed Internet access.)
- ii) An electrical outlet near the phone jack for plugging in the dialer's power cube. This power outlet should be powered up all the time, and not be turned on or off by a light switch.
- iii) The dialer's location should be as close to where the phone line enters your premises as possible. See if you can tell where the phone line comes into your premises, and locate the dialer at the nearest phone jack if possible. If you can't tell and you have an apartment, pick a jack toward the center of the building. If you can't tell and you have a home, pick a jack on or near the first floor if possible.

Please see the picture on the next page. Plug the power cube into the power outlet, and plug its other end into the dialer power jack. The dialer's LED will blink rapidly ON and OFF. If



there's something plugged into the phone jack you've chosen, unplug it and plug it into the dialer phone jack 1 as shown. Now plug the short dialer phone cord into the dialer phone jack 2, with the other end of the dialer cord going into the wall jack you've chosen. The dialer's LED will blink ON and OFF five times in five seconds, while the dialer analyzes your line. After that time, the LED should blink slowly a second and a half ON and a second and a half OFF, until the dialer receives a download. If the LED instead stays ON constantly, you should swap the cords plugged into the dialer, so that the short cord goes into jack 1. Once you do this, the LED should blink slowly ON and OFF, as described above.

If you'd like, you can mount the dialer on your wall using the self-adhesive pad provided, or you can use screws if you prefer. To use the self-adhesive pad, peel off the tape on both sides of the pad, stick the pad to the bracket on the slightly smaller side with holes, and then attach the bracket to the wall. Instead of using the pad, you can attach the bracket with two $\frac{3}{4}$ " #6 flathead wood screws available in any hardware store.



2. Notify your service provider

Now that the dialer is installed, you need to let your phone service provider know that the dialer is ready for a download. The service provider's number should be on your service agreement or included with the dialer. The dialer is designed to make the download fast and easy.

Before the download, the dialer's light will blink steadily—ON a second and a half, OFF a second and a half, etc. You can use your phones normally, and the dialer will stay quiet until the download occurs.

During the download the dialer's light will flash briefly every few seconds. Once the download is complete, the light will flash a pair of rapid blinks every second when all phones are on-hook, and stay off when any phone is off-hook unless the dialer is dialing.

In other words, you can look at the light to tell if your download happened. If the light gives two rapid blinks every second when all your phones are on-hook, the download happened and the dialer is ready to do its job. [It will take the dialer up to thirty seconds after the download is complete to reconfigure itself. After this, the dialer will route calls using the new download information.]

Some months after the first download, your service provider may initiate a new download so that your dialer's routing information remains current. Since most updates will take less than 5 minutes, and since the service provider tries to do updates only at times that are convenient for you, it is unlikely that an update will be in progress when you try to make a call. If you do try to make a call while an update is in progress, you will hear a series of tones being transmitted between the dialer and the service provider's host computer. If you hear these tones, if possible you should hang up and let

the update complete. If necessary, you can interrupt the update by pressing any one of the tone buttons on your phone for at least two seconds, and then hanging up for a few seconds. You may then place your call. The dialer will get its download later.

Please note that you should contact your service provider if you move, change your phone number, or for any other reason want to use your dialer with a new phone number. Failure to do so can result in improper routing of your calls.

Please read on, in case you need to tune the dialer's operation and so you can understand more about how the dialer works.

3. If necessary, tailor the dialer to a special situation

Special situations include offices where you need to dial an 8 before dialing a phone number and use of the dialer with fax machines. If you have a special situation, please go to the Special situations section on page 7. Otherwise continue below with Use the dialer.

4. Use the dialer

The dialer has a routing table loaded by the service provider. This routing table tells the dialer which calls to route based on information that includes your own phone number. Typically the dialer will route domestic and international toll calls.

When you place a call that should be routed, the dialer listens to the digits you have dialed and stores them. When the dialer is storing those dialed digits, they sound very soft because the dialer is preventing them from being heard by your local telephone office. When you have finished dialing, the dialer will route the call by adding appropriate digits, if any, to the

digits you've dialed. When the dialer finishes dialing, it waits passively on the phone line for you to start another call.

Some calls, such as some local calls, should not be routed. The dialer typically lets the digits dialed for these calls go directly to the central telephone office.

When you dial international calls, the dialer will dial after you've stopped dialing for about 3 seconds. The dialer does this because international phone numbers vary in length, so it's hard for the dialer to tell when you've finished dialing all the required digits. To avoid the 3 second delay, you can simply press # after you have dialed the last digit of the phone number. As soon as the dialer hears the #, it dials.

The dialer needs to generate fairly loud tones, so you may want to hold the dialer away from your ear when it's dialing.

You should also be aware that your off-hook phone puts room noises into the dialer's circuitry, which can make it harder for the dialer to hear voice prompts. If you are in a noisy room, or if you need to speak to someone, you can overcome this problem by putting your hand over the phone's mouthpiece when the dialer is dialing.

Special Situations and Frequently Asked Questions are covered below. If you don't have a special situation or question, you're done. Enjoy your dialer!

Special Situations

You only need to read this section if you have one of these special situations:

- A. If you need to dial a prefix like **8** before dialing a phone number
- B. If you have a fax machine on the same phone line as the dialer

- A. If you need to dial a prefix like **8** before dialing a phone number

In some offices and in very few homes, you need to dial a prefix such as 8 before dialing someone's phone number. Your service provider can program your dialer for this situation during the first dialer download. In the unlikely event that you want to take care of this situation, here's how.

1. Pick up any phone that is connected to the same phone line as the dialer.
2. Dial

* 6 x x x #

where x x x are up to three digits you must dial to get an outside line.

For example, if you must dial an 8 to access an outside line, program your dialer by taking a phone off-hook and dialing

* 6 8 #

If you no longer want the dialer to dial a prefix, take a phone off-hook and dial

* 6 #

- B. If you have a fax machine on the same phone line as the dialer

When fax machines make a call, they put out special tones called CNG tones that can distort the dialer's tones and cause misdialing. If you have this problem, one good solution is to prefix numbers dialed from your fax machine by **** ***. For instance, assume you want to dial **1-212-222-2222** from a fax machine using this command. Just come off-hook and dial:

**** * 1-212-222-2222**

The prefix tells the dialer to use its special handling of CNG tones. This special handling is only active for this one call.

Another approach is to program the dialer to listen for fax CNG tones whenever you make a call. This works reliably, but slows down every call you make with the dialer, so it's only recommended if a high percentage of your calls are with a fax machine.

1. Take a phone off-hook and dial

* 7 1 #

This programs the dialer to listen for fax CNG tones, and to make sure that no dialing occurs during these tones. Activating this feature will result in a delay of about 3.5 seconds before the dialer dials, even for non-fax calls.

2. To turn this feature off, take a phone off-hook and dial

* 7 0 #

Frequently Asked Questions

Q: When I dial, why do the dialed digits sometimes sound soft?

A: When the tones are soft, the dialer is storing dialed digits while preventing them from being heard by the central telephone office. If the tones were loud, the central phone office would hear them and get confused.

Q: Why isn't the dialer routing my calls?

A: There are a number of possible reasons:

- 1.) The dialer didn't get its initial download. Did you notify the phone service provider that the dialer is installed?
- 2.) The dialer only routes appropriate calls.
- 3.) The dialer is not powered up. Check that the dialer's light flashes when your phones are all on-hook.
- 4.) The dialer isn't plugged into an appropriate phone jack, or the wrong cord is being used. Please check that the dialer is installed properly.
- 5.) The dialer needs to dial longer or louder tones. Please see below.
- 6.) Your long distance service provider may be experiencing difficulties. Please try again later. If you need to make a call right away, you can dial * 0 followed by the number you want to reach. This call will be routed through your pre-subscribed long distance carrier.
- 7.) The dialer may be defective

Q: When should I consider having the dialer generate longer or louder tones?

A: If you hear the dialer dialing tones at the right time and those tones don't get you to the person you called, you may need to make the tones longer or louder. To control the tone volume, go off-hook and then dial

#*31## if you want louder tones

#*30## if you want softer tones (Default)

To control the tone length, go off-hook and then dial

#*44## if you want 150 millisecond tones

Here are some other tone lengths you can select:

#*41## if you want 50 millisecond tones

#*42## if you want 70 millisecond tones

#*43## if you want 100 millisecond tones (Default)

#*45## if you want 250 millisecond tones

Q: How do I bypass the dialer for a single call?

A: If, for some reason, you do not want the dialer to route a specific call, dial *0 before the number you want to call. For instance, if you don't want the dialer to route the phone number 1-212-222-2222, take the phone off-hook and dial

***012122222222**

The next time you make a call, the dialer will route the call normally unless you tell it otherwise by using the *0 command.

Q: How do I bypass the dialer for multiple calls?

A: If, for some reason, you do not want the dialer to route any calls for some period of time, go off-hook and then dial

* * 3472253 ## This is *****DISABLE##**

The dialer will not route any calls while it is disabled.

You may re-enable the dialer at any time by going off-hook and dialing

* * 362253 ## This is *****ENABLE##**

The dialer will now route calls the same way it did before you disabled it.

Q: Why do I still see some long distance calls on my phone bill?

A: It's probably because the dialer did not route those calls. Please see the question above. The dialer typically does

not route certain calls including calls that it thinks are local, calls prefixed by *69 or *82, and calls completed by a directory assistance operator. Please note that your service provider can program the dialer to recognize and route calls prefixed with *69 & *82, if this is important.

- Q: What do I do if the dialer has problems when I place calls using a modem or fax machine?
- A: Please see the *Special Situations* section of this manual.
- Q: I have two phone lines wired into one jack. How do I attach the dialer to the second line?
- A: A two-line jack is called an RJ-14 jack. You can purchase a line splitter that will provide two single-line jacks from one two-line jack. With this splitter you will be able to connect the dialer to either phone line.
- Q: How do I connect the dialer when all of the phone jacks in my house are for wall-mounted phones?
- A: You may purchase and install a wall plate adapter that provides a jack for the dialer. Another option is to connect a modular jack to the phone line and plug the dialer into that jack.
- Q: Does the dialer work with rotary or pulse phones?
- A: No, the dialer only works with tone phones connected to central telephone offices set up to accept standard tones called DTMF tones.
- Q: What happens if I dial and my call does not go through?
- A: You must complete your dialing within about 15 seconds of going off-hook for the dialer to properly process your number. If you think you have taken longer than this, please hang up and then try the call again.
- Q: How do I get help with my dialer?
- A Call your telephone service provider.
- Q: Why don't people I call see my caller ID when I call with my dialer?
- A: Many alternate long distance services do not forward caller ID. If the person you are calling won't accept your call without caller ID, you can dial * 0 before the number

you are dialing to place the call through your normal long distance provider.

Q: Why won't the dialer route the second call when I try to place 3-way (conference) calls through my long distance service provider?

A: Contact your long distance service provider to see whether they support 3-way calling. If they do, your service provider should be able to download a new setting to your dialer to permit 3-way calling. Otherwise you will need to arrange for 3-way calling through your local telephone company.

Q: Why doesn't the dialer route a new call after I hang up briefly to end a previous call?

A: Sometimes it takes service providers a few seconds to notice that you have hung up. In these cases, a new call may not go through unless you leave your phone on hook for several seconds.

Other times the dialer may be set so that it won't try to route calls unless you hang up for at least two seconds. If you want the dialer to route calls after hook flashes shorter than two seconds (and your service provider supports this), you can program the dialer to do so by entering:

* 9 0

If you need the dialer not to route after short hook flashes, enter:

* 9 1

Dialer LED Behavior

The dialer's LED can give you useful information about the dialer and the line it's connected to. Here is a table, which shows the LED's blinking patterns and what they mean.

LED Pattern	Meaning
OFF	The dialer is OFF HOOK. This can be because someone is using a phone, or because the dialer is receiving a download. The LED will also be OFF if the dialer has no power.
Pair Of Rapid Blinks Every Second:  <i>Repeats Continuously</i>	This pattern of two rapid blinks followed by a short pause indicates that the dialer has received a download, and that the line is ON HOOK. The dialer is ready to route a call.
Very Slow Blinking:  <i>Repeats Continuously</i>	This pattern indicates that the dialer is waiting for a download. In this state, the dialer will not attempt to route your calls.
ON 	When the LED is ON solidly, it indicates that the phone wires are connected in an 'Inverse' configuration. Please plug the phone line into the dialer's other jack.
Other Blinking Patterns: 	The dialer will blink in other patterns when first powered up, while receiving a download, and while routing calls. This is normal.

