

Ring-It!™

With Caller-ID Reference Guide Version 3.6 Software

Introduction

RING-IT! is a single line Telco Simulator designed to work with standard North American phones and telephone related devices, including Caller-ID display equipment. It is ideal for the workbench to test phone devices and its portable design is perfect for taking it to the field for sales demonstrations. It is compatible with telephones, answering machines, voice mail systems, fax machines, and modems. Its high quality audio allows for clear voice communication and it even supports high speed analog modems.

What's New?

New product enhancements add to RING-IT's extensive list of features. To use your unit, be sure to review all of the features described in this reference booklet. Here is a brief summary of the additional features:

- ❶ Support for eleven digit phone numbers. See *Telephone Dialing Format*, page 1.
- ❷ Emergency 911 training feature. See *Emergency 911 Training Feature*, page 2.
- ❸ Two-way Ringing. See *Bi-Directional Ring Feature*, page 4.
- ❹ Caller-ID support. See *Caller-ID Feature*, page 5.
- ❺ Jumper-less configuration. See *Save Settings Feature*, page 7.
- ❻ Audio Input/Output Jack. See *Audio Jack*, page 7.

Telephone Dialing Format

RING-IT accepts any TouchTone (DTMF) dialed local or long distance phone number that follows the North American dialing standard. It does not accept the pulse dialing method. The local numbers use the xxx-xxxx format and the long distance numbers are 0/1-(xxx)-xxx-xxxx. The Emergency 911 number is also accepted. Please be aware that RING-IT has several operating modes and some do not require dialing a number to ring another phone.

Quick Dialing Format

You can also start a ring cycle using two different short cut methods. On the front of the unit there is a RING pushbutton switch. Pressing this switch will toggle the ringing on and off. Also, anytime you hear dial tone in the phone, you may press the phone's Star key twice (**) to start a ring cycle.

The quick dial mode does not send a Caller-ID directory number. Instead, your Caller-ID box will show "blocked call" or "private" and the directory name will be "RING-IT!." If you need to see a directory number then just dial a seven or eleven digit phone number instead.

Emergency 911 Training Feature

The emergency 911 feature is perfect for 911 training, which is a popular subject in many grade schools.

Dialing “911” will cause the phone on the Test Line to ring using a stuttered ring cadence (the caller hears a normal ring tone). If the Caller-ID feature is enabled, the stuttering is delayed until the second ring to allow compatibility with Caller-ID display systems. If you install a Caller-ID display unit, you will see “Emergency 911” as the caller’s directory name (the name is omitted on number only display systems). The directory number will be displayed as “**911.**”

LED Readout

RING-IT’s single character LED display can show you the Mode, Cycle Time, or the dialed digit. The decimal point is illuminated only when the Mode is shown. A dialed telephone digit is shown as a value without the decimal point. The two special telephone digits, ★ and #, are displayed as “A” and “P,” respectively. Telephone digits will revert to the operating mode character within three seconds after you dial the last digit.

Operating Modes

RING-IT can work just like a normal telephone line or it can provide special operating modes. You can select the different modes by pressing the front panel mounted MODE pushbutton switch. As mentioned, the LED readout displays the mode that is in use. The five modes are summarized as follows (the bracketed value shows the corresponding LED display):

- [n.] Normal Ring Mode
- [A.] Automatic Ring Mode
- [b.] Beeper Tone Mode
- [c.] Cycle Ring Test Mode
- [d.] Dumb Mode

[n] Normal Mode

The *normal* mode is used when you want standard telephone system emulation. When you take the MAIN line’s phone off-hook, a dial tone is heard. If you do nothing for twenty-five seconds a “reorder” sound is heard. If you dial a typical seven or eleven digit phone number then the TEST line’s phone will start to ring. When the TEST line answers, the front panel CONNECT LED will light up. If you attempt to ring the TEST line and it is off-hook, then a busy signal will be heard.

There are some shortcuts in the *normal* mode that can be used to ring the TEST line. For example, pressing the MAIN phone’s DTMF “★” key twice will immediately start the ring request. The front panel RING switch will also start the ring cycle, which can be used if the MAIN line’s phone is not DTMF compatible.

The *normal* mode is perfect for demonstrating telephone equipment such as answering machines, fax systems, voice mail, modems, and more! Because the standard call progress audio tones are heard, your telephone call will appear very realistic to your audience, as well as your telephone equipment.

[A] Automatic Ring Mode

The *automatic* ring mode is designed to start the ring cycle immediately after the MAIN line’s phone is taken off-hook. This operation is sometimes called a “Ring-Down line” by phone system manufacturers. If either line is off-hook when the other is answered, the two lines are automatically connected together.

The *automatic* mode, besides being used to test and demonstrate phone equipment, is also perfect for use as a front entry intercom for home or office use. Place a phone near you and one near your entry. Be sure to post a note near the entry phone that instructs your visitors to “lift the receiver for assistance.”

[d] Dumb Mode

The *dumb* mode provides a silent talk path and allows a manual ring. You will not hear any call progress tones. However, you can converse normally. TEST line ringing is controlled by using the RING pushbutton switch or the MAIN phone's “★” key. The ring signal will follow the presses. Unlike the other modes, the ringing does not continue when the button is released. Whenever the TEST line is taken off-hook, the two lines will be automatically connected together.

The *dumb* mode is used for testing basic telephone operation (audio quality, DTMF operation, etc.). Because you can control the cadence of the ring signal, nonstandard equipment can be tested for ring operation.

[b] Beep Tone Mode

The *beep tone* mode is specially designed for cycle testing answering machines and other types of telephone equipment. To start the cycle you must dial a phone number, use the “★★” quick dial feature, or press the RING button. It is not necessary to have the MAIN line's phone off-hook during the *beep* mode. Whenever the TEST line is answered, a series of repeating test tones are sent to the telephone equipment being tested.

During the beep mode the TEST line automatically rings after a short delay (the time delay is adjustable). When the line is answered, the staggered beep tones are played. These tones have been designed to prevent a voice controlled answering machine from hanging up. The ring-up cycle repeats, after the delay, until it is canceled by pressing the MODE switch. To set the delay please see *Time Delay Code Setting Feature* on page 5. During the delay period, an animated light sequence is shown on the LED display.

As an example, if the delay time is set for thirty seconds, the device being tested will be rung-up thirty seconds after the last answer/disconnect cycle. The test tones will be played as long as the TEST line is off-hook. If the TEST line goes on-hook, the delay time starts up again and the chasing light sequence is shown on the LED display.

[c] Cycle Mode

The *cycle* mode provides most of the features of the *beep* mode except that the beep tones are not played and a phone must be plugged into the MAIN line. To start the cycle you must dial a phone number, use the “★★” quick dial feature, or press the RING button.

When the TEST line answers, your conversation may begin. If the TEST line hangs up and the MAIN phone remains off-hook, the line is automatically rung up after the delay time. This cycle repeats until the MAIN phone is hung up, or the RING or MODE buttons are pressed.

Beep and Cycle Mode Example

To use the *beep* or *cycle* modes, connect an answering machine or telephone to the TEST line. If you are using the cycle mode be sure to also install a phone in the MAIN line jack. Start line ringing by dialing from the MAIN line's phone or pressing the RING switch.

If you are using the *beep* mode, whenever the TEST line is answered, a series of beeps will be generated that will make most voice operated (VOX) answering systems stay on the line (if they are operating correctly). If you want to force the answering system to periodically hang up, just use their VOX time limit switch. You must keep the MAIN line off-hook if you are using the *cycle* mode. After your TEST line's equipment hangs up it will be cycled on again every 0-90 seconds, depending on the delay code setting. At any time you can cancel the *beep* or *cycle* modes by pressing the RING or MODE switches.

Bi-Directional Ring Feature

All factory assembled units now include our *Bi-Directional Ring Feature*. While in the *Normal* or *Auto* modes, you can dial a call from either the MAIN LINE or the TEST LINE. However, you must use the MAIN LINE to place your calls while in the *Beep*, *Cycle*, or *Dumb* modes.

Note: Remember, you cannot dial from the TEST LINE when you are in the Beep, Cycle, or Dumb modes.

CLASS Feature (Recall Dial Tone)

Whenever you begin a dialing sequence with “*,” followed by two digits (00-99), you will hear three short beeps. This tone sequence is called *Recall Dial Tone* and is similar to the beeps heard on some phone systems during special dialing modes.

RING-IT has reserved *30 through *39, *60 through *67, and *69. All remaining codes are unused and can be freely dialed without affecting the unit's operation. These special dialing codes are similar to those used by the Public Switch Telephone Network's (PSTN) CLASS features.

The *67 code is identical to the Caller-ID call block feature used by most phone companies, but the others are special to RING-IT and are used to program the features on your unit. Table 1 offers a quick summary of the codes.

TABLE 1, * CODES

CODE	DESCRIPTION	CLASS
★30-★39	Time Delay Code Settings	No
*60	Caller-ID Corrupt Checksum	No
*61	Caller-ID Out-of-Area	No
*62	Caller-ID Name & Number	No
*63	Caller-ID Number Only	No
*64	Caller-ID Enable	No
*65	Caller-ID Disable	No
★66	Restore Factory Settings	No
*67	Caller-ID Call Block	Yes
*69	Recall Tone Disable Feature	No

Time Delay Code Setting Feature (★30 - ★39)

Setting the *Cycle* or *Beep* Mode time delay is easy. First, set the unit to the *Normal* [n.] mode. Next, pick up the phone on the Main Line and dial ★3x, where x is the delay time code as shown in Table 2. You will hear three beeps after entering the code, followed by dial tone. You can save this setting by using the *Save Settings Feature* described on page 7.

TABLE 2, DELAY CODES

★3x Delay Codes	
★30 = No Delay	★35 = Fifty Seconds
★31 = Ten Seconds	★36 = Sixty Seconds
★32 = Twenty Seconds	★37 = Seventy Seconds
★33 = Thirty Seconds	★38 = Eighty Seconds
★34 = Forty Seconds	★39 = Ninety Seconds

You can press and hold the RING switch to review the current delay code setting (must be in *Beep* or *Cycle* modes).

Recall Tone Disable Feature (*69)

To disable the CLASS/Recall Dial Tone feature, obtain dial tone and dial *69. Unless the MODE button is pushed, the * codes will be prevented from sending the three response beeps and the codes will be ignored. In fact, your RING-IT can now start phone ringing with just a single * entry, instead of the normal two (see Quick Dial Feature, page 1). The *69 code does NOT need be repeated for each call, and can be saved as a default mode. It is canceled whenever the MODE button is pressed.

Caller-ID Feature

RING-IT supports the **number only** and the **name and number** Caller-ID message formats. You can choose either method by using special feature codes, as described on page 6.

If you are using the name and number delivery mode, the message shown is one of five pre-stored names and is dependant on the last digit of the seven or eleven digit number that you dialed. See Table 3 for the five names.

TABLE 3, DIRECTORY NAMES

LAST	NAME SENT
1 or 6	"ABBY THOMPSON"
2 or 7	"MOTHER-IN-LAW"
3 or 8	"JOHN SMITH JR."
4 or 9	"ROSIE PORTER"
5 or 0	"ACME COMPUTER"

Caller-ID Time Set (#*) Feature

The Caller-ID feature offers time-of-day information for marking incoming call time. Whenever you apply AC power, the clock is reset to Jan 1, 12:00 A.M. If required, the telephone connected to the MAIN line can be used to set the clock's time. In brief, the time setting format is as follows: # * Mm Dd hh mm *

To change the time, set the unit's mode to *Normal* [n.] and then follow these instructions:

<u>Step</u>	<u>Description</u>	<u>Legal values</u>
(1)	Enter Time Set command (# *)	" # *"
(2)	Enter the Month (MM)	" 01 " to " 12 "
(3)	Enter the Day (DD)	" 01 " to " 31 "
(4)	Enter the Hour (hh)	" 00 " to " 23 "
(5)	Enter the Minutes (mm)	" 00 " to " 59 "
(6)	Enter the Exit command (*)	" * "

If you have successfully entered the time, you will hear dial tone after entering the last digit. Incorrect time settings will result in a busy signal.

The internal clock is used to simulate the time that is sent in a Caller-ID broadcast. It is not meant to be an accurate timepiece and may gain or lose a few seconds each day. The date information is not updated automatically and you must manually set the date after midnight.

Special Caller-ID Operating Modes

While in the *Normal* Mode, whenever you begin a new dial sequence with *60 to *65, or *67, you will activate special Caller-ID dialing features. These features are:

Caller-ID Corrupt Checksum (*60) Feature

RING-IT offers a special feature that allows you to simulate Caller-ID (CLASS/FSK) broadcast errors. This feature is perfect for use by hardware and software developers so that they can test their Caller-ID based products under simulated noisy line conditions.

To use the *corrupt checksum* feature, dial "*60" before your phone number. Your display box will show an error message (*line error, data error, receive error*) or will remain blank. This code must be repeated for each call. The Corrupt Checksum (*60) command is not a telephone company provided feature and is unique to RING-IT.

Out-of-Area (*61) Feature

If you dial "*61" before your local or long distance number, the *Unavailable, Out-of-Area, Number Unknown*, or other related message, will appear on your Caller-ID display box. This code must be repeated for each call, and can be canceled by hanging up and re-dialing the number. The Out-of-Area command (*61) is not a typical telephone company provided feature and is unique to RING-IT.

Name & Number/Number Only (*62/*63) Feature

If you want Name and Number Caller-ID, then dial "*62." For Number only Caller-ID, dial *63. This code does NOT need be repeated for each call, and can be saved as a default mode. These two commands are not typical telephone company provided features and are unique to RING-IT.

Caller-ID Enable/Disable (*64/*65) Feature

If you want to Enable Caller-ID, then dial "*64." To disable it dial *65. This code does NOT need be repeated for each call, and can be saved as a default mode. These two commands are not typical telephone company provided features and are unique to RING-IT.

Caller-ID Call Block (*67) Dial Feature

If you dial "*67" before your local or long distance number, the "Number Blocked" or "Private" message will appear on your Caller-ID display box. As with the phone company feature, the *67 code must be repeated for each call, and can be canceled by hanging up and re-dialing the number.

Save Settings Feature

RING-IT can learn your favorite settings so that they are available when you first apply power. Of course you can freely change them at any time. The following items can be saved:

- Operating Mode (*Normal, Auto, Beep, Cycle, or Dumb*)
- Caller-ID Message Feature (Enable/Disable)
- Caller-ID Message Format (Number Only/Name & Number)
- Cycle/Beep Delay Time Code Value (0-9)
- CLASS Recall Dial Tone "★" Code Feature (Enable/Disable)

To save the settings listed above, just press the RING and MODE Buttons at the same time. In less than a second, all of the current settings will be stored. In order to prevent the current operating Mode from inadvertently changing while saving the settings, be sure to (1) press and hold the RING button, (2) press and release the Mode button, (3) then release RING. In some situations you may cause the Test Line to ring while saving the settings. If this occurs, just release the two buttons and then press the RING button to cancel the ring.

Note: The storage feature uses an E²PROM (electrically erasable programmable read-only memory) chip and will retain the saved settings for more than ten years. By the way, there are no batteries to replace.

Restoring Factory Settings (★66)

While in the *Normal* Mode you may dial ★66 to restore all of the factory default settings. These are not automatically saved, so you will need to use the *Save Settings Feature*, described on page 7, if you want to make them your default settings. The factory default settings are as follows:

- | | |
|---------------------------|----------------------|
| Operating Mode | = Normal |
| Caller-ID Message Feature | = Enabled |
| Caller-ID Message Format | = Name & Number |
| Cycle/Beep Delay Value | = 3 (thirty seconds) |
| Recall Dial Tone Feature | = Enabled |

Audio Jack and Audio Select Switch

The rear panel mounted audio jack allows you to connect standard audio equipment to your RING-IT. The audio connector is a standard 1/8" mono phone jack. The rear panel mounted AUDIO SELECT Switch is used to choose the audio mode that you will use. Please see Table 4.

TABLE 4, AUDIO JACK

AUDIO JACK MODE	SWITCH SETTING
Audio to external amplified speaker=	AUDIO OUT
Audio from external source	AUDIO IN

Be sure that the switch is set correctly before connecting your audio equipment.

Set the switch to “Audio Out” and you can easily add an external amplifier to allow others to hear your phone conversation. This is ideal for sales demonstrations, telephone training, and test monitoring. The jack provides a buffered low level signal (1 volt line), so you must use an amplified speaker. You can use a low cost amplified speaker system like those that are used with “PC” computer sound cards. Because PC speakers are stereo, you will need a stereo-to-mono connector adapter plug such as Tandy Radio Shack item #274-368. *Please note: The Audio Output cannot directly drive a standard speaker -- an amplified system is necessary.*

Set the switch to “Audio In” to add sound from an external source to your phone conversations. This is a very handy way to place pre-recorded messages onto the simulated phone line. Just use the earphone/speaker jack on your audio source and set its volume to meet your needs. Your audio source choices include CD players, radios, and tape players.

CPC Feature

Whenever the caller disconnects, a momentary interruption of the phone line current occurs to simulate the central office’s *Calling Party Control* (CPC) feature. You can turn the CPC feature on or off via the removable “jumper” located on the rear panel (please see Table 5). The jumper can be removed by pulling on it. We recommend that you leave the jumper installed (CPC on).

TABLE 5, CPC JUMPER

CPC DESCRIPTION	SETTING
CPC = Off=	Removed
CPC = On=	Installed