

Ring-It!™

Pro-Series

Version 5 Software

Table of Contents

| | |
|---|----|
| Introduction | 3 |
| Telephone Dialing Format | 3 |
| TABLE 1, Special Telephone Numbers | 3 |
| Quick Dialing Features (★★ and Ring Switch) | 4 |
| Emergency 911 Training Feature | 4 |
| Alpha-Numeric Display | 4 |
| Operating Modes | 5 |
| [n] Normal Mode | 5 |
| [A] Automatic Ring Mode | 5 |
| [d] Dumb (silent) Mode | 5 |
| [b] Beep Tone Mode | 6 |
| [c] Cycle Mode | 6 |
| Beep and Cycle Mode Example | 7 |
| Bi-Directional Ring Feature | 7 |
| CLASS Feature (Recall Dial Tone) | 7 |
| TABLE 2, CLASS ★ Code Summary | 8 |
| “legacy” codes | 8 |
| Cycle Delay Feature (★30 - ★39) | 8 |
| TABLE 3, Delay Codes | 8 |
| Recall Tone Disable Feature (★69) | 8 |
| Caller-ID Feature | 9 |
| TABLE 4, Directory of Names | 9 |
| Caller-ID Time Set (# ★) Feature | 9 |
| set the clock’s time | 9 |
| Special Caller-ID Operating Modes | 10 |
| Caller-ID Corrupt Checksum (★60) Feature | 10 |
| <i>line error</i> | 10 |

| | |
|---|----|
| <i>data error</i> | 10 |
| <i>receive error</i> | 10 |
| Out-of-Area (★61) Feature | 10 |
| <i>Unavailable</i> | 10 |
| <i>Out-of-Area</i> | 10 |
| <i>Number Unknown</i> | 10 |
| Name & Number/Number Only (★62/★63) Feature | 10 |
| Caller-ID Enable/Disable (★64/★65) Feature | 10 |
| Caller-ID Call Block (★67) Dial Feature | 10 |
| <i>Number Blocked</i> | 10 |
| <i>Private</i> | 10 |
| System Programming Feature | 10 |
| TABLE 5, System Programming Summary | 11 |
| Operating Mode | 11 |
| Auto Dial-Tone Time | 12 |
| Network Response Time | 12 |
| CID Number only / Name & Number | 12 |
| CID Disable / Enable | 12 |
| CID Stentor / Bellcore | 13 |
| CPC Disable / Enable | 13 |
| Dial Pulse detection Disable / Enable | 13 |
| Display S/W Version | 13 |
| Reset System | 13 |
| Restore Factory Defaults | 13 |
| Save Default Settings | 13 |
| E911 Stutter Ring Disable / Enable | 14 |
| Quick Ring Disable / Enable | 14 |
| Mode Reset Disable / Enable | 14 |
| Recall Tone Disable | 14 |
| Speaker Audio Mute Disable / Enable | 14 |
| Loop Current High / Standard | 15 |
| Reorder Tone Disable / Enable | 15 |
| 2-Way Record Beep Disable / Enable | 15 |
| Audio Jack and Audio Select Switch | 15 |
| TABLE 6, Audio Jack | 15 |
| Audio In | 15 |
| Audio Out | 15 |
| Modular Jack Wiring Format | 16 |
| RJ-14 format | 16 |

Ring-It!™

Pro-Series

Version 5 Software

Introduction

RING-IT! is a two line central office (telco) phone line simulator that is designed to work with standard North American telephone related devices. It is compatible with phones, answering machines, voice mail systems, fax machines, and data modems. It even supports Caller-ID display equipment.

With the introduction of the "Pro Series" and its Version-5 firmware, several new features have been added. Here is a quick summary of the latest changes:

- Support for rotary/pulse dialed phones.
- Support for "0" and "00" operator calls.
- Programmable network response times.
- Programmable CPC disable.
- Programmable loop current (normal/high).
- Phantom test numbers (ring-back, busy, reorder).
- Simulated 2-way record beep on 311 and 911 calls.
- Special Information Tones (SIT) and Test Tones.
- Call Progress muting on rear panel speaker jack.
- RJ-14 modular jacks (2-line).

Telephone Dialing Format

RING-IT accepts any Touch Tone (DTMF) or rotary/pulse (10 PPS) dialed phone number that follows the common North American dialing standard. The local numbers use the xxx-xxxx format and the long distance numbers are 0/1-(xxx)-xxx-xxxx. Operator calls can be made by dialing a "0" or "00." As with a typical phone line, there will be a moderate delay before ringing when a single "0" operator call is made.

There are several other special phone numbers that can be dialed. Many attempt to mimic common numbers that are used by your phone service provider. Some are unique to RING-IT. Here is a complete list of all the numbers that offer unique features:

TABLE 1, Special Telephone Numbers

| Number | Description |
|--------|------------------------|
| 0 | Local Operator |
| 00 | Long Distance Operator |
| 311 | non-Emergency Services |
| 411 | Information Operator |

| | |
|----------|---------------------------------|
| 611 | Repair Services |
| 711 | Hearing Impaired Operator |
| 911 | E-911 Emergency Services |
| 123-4567 | Incomplete Number, Reorder Tone |
| 767-1000 | Phantom Call, Busy tone |
| 767-1001 | Phantom Call, Ringing tone |
| 767-1002 | Phantom Call, Reorder tone |
| 767-1003 | 1KHz Test Tone (approx -14dBm) |
| 767-1004 | Warble Test Tone |
| 767-1005 | SIT Tone, Operator Intercept |
| 767-1006 | SIT Tone, No Circuit Found |

Quick Dialing Features (★★ and Ring Switch)

You can also start a ring cycle using two different short cut methods. [1] Anytime you hear dial tone you may press the phone's Star key twice (★★). [2] The front panel RING pushbutton switch will toggle the ringing on and off. One phone must be off-hook while in the *Normal*, *Auto*, and *Cycle* modes. It is available in *Dumb* and *Beep* modes anytime the phone in the TEST jack is on-hook; the Main phone does not need to be installed or off-hook.

The quick dial mode does not send the usual Caller-ID directory number. Instead, your Caller-ID box will show "blocked call" or "private" and the directory name will be "RING-IT!." While in *Beep* or *Cycle* modes, recycled ringing will have unique Caller-ID values that can be used as a time stamp.

Emergency 911 Training Feature

The non-Emergency 311 and Emergency 911 numbers are supported by RING-IT. When these are dialed, the phone's bell will ring using a special stuttered ring pattern. The ring-back tone will sound normal. During the call, a simulated 2-way beep will occur every ten seconds. Both the stuttered ring and 2-way beep can be disabled (please see the System Programming section).

The emergency 911 feature is perfect for E-911 training, which is a popular subject in many grade schools. 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-xxx-xxxx" where "x" contains the line number that made the call. Calls made using "311" also follow this convention.

Alpha-Numeric Display

RING-IT's single character 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 standard 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.] BEEP Tone Mode
- [c.] Cycle Ring Test Mode
- [d.] Dumb (silent) Mode

[n] Normal Mode

The *Normal* mode is used when you want standard telephone system emulation. When you take the phone off-hook, a dial tone is heard. The front panel CONNECT light will slowly blink to show that one line is off-hook. If you do nothing for twenty seconds a "reorder" sound is heard.

If you dial a phone number the other line will ring. The CONNECT light will blink at a fast rate to show that ringing is active. When the call is answered, the CONNECT light will stop blinking and remain on during the connected call.

There are some shortcuts in the *Normal* mode that can be used to ring a line. For example, pressing the phone's DTMF "★" key twice will immediately ring the opposite line. The front panel RING switch will also start the ring cycle without dialing.

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 sound very authentic.

[A] Automatic Ring Mode

The automatic (*Auto*) ring mode is designed to start the ring cycle after the MAIN line's phone is taken off-hook. This operation is sometimes called a "Ring-Down line" by phone system manufacturers.

The *Auto* 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 (silent) 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 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 both lines are off-hook they are automatically connected together. Pressing # will return you to the *Normal* Mode.

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 begin the test call you must dial a phone number from the MAIN line, use the "★★" quick dial feature, or press the RING button. It is not necessary to have the MAIN line's phone off-hook after the *Beep* mode is started. Whenever the TEST line is answered, a series of stuttered beep 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 (please see the System Programming section). 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. During the delay period, an animated light sequence is shown on the LED display.

For 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. As mentioned, the MAIN line does not need to remain off-hook during this special operating mode.

Please see the comments about Caller-ID in the *Beep and Cycle mode Example* section on page 7.

[c] Cycle Mode

The *Cycle* mode provides most of the features of the *Beep* mode except that the beep tones are omitted and a MAIN Line's phone must remain off-hook at all times. To begin the call 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.

Please see the comments about Caller-ID in the *Beep and Cycle mode Example* section on page 7.

Beep and Cycle Mode Example

To use the *Beep* or *Cycle* modes, connect the telephone equipment to be tested 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 its 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 *Cycle delay* setting. At any time you can cancel the *Beep* or *Cycle* modes by pressing the RING or MODE switches.

During the *Beep* and *Cycle* modes, the Caller-ID number that is sent is unique for each call. The very first call will be marked as "Unavailable" or "Number Blocked." The caller's name will be "Ring-It!." However, future calls will be identified by a unique ten digit number and a randomly chosen name. The broadcasted Caller-ID number is based on the date and time and will increment with each call.

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 situations.

RING-IT has reserved ★30 through ★39, ★47, ★60 through ★67, and ★69. All remaining codes are unused and can be freely dialed without affecting the unit's operation. These 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 other codes are special to RING-IT and are used to control the unit's features. Table 2 offers a quick summary of the codes.

TABLE 2, CLASS ★ Code Summary

| CODE | DESCRIPTION | CLASS |
|---------|-----------------------------|------------|
| ★30-★39 | Time Delay Code Settings | No |
| ★47 | <i>System Programming</i> | No |
| ★50 | Manual CPC Request | 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 |

Note: With the release of the Pro-Series Version-5 firmware, most of the programming functions are performed through the use of the ★47 code (please see the System Programming section). However, to maintain compatibility, all of the existing codes are still available. These are now referred to as “legacy” codes and are described as follows:

Cycle Delay Feature (★30 - ★39)

Setting the *Cycle* or *Beep* mode's time delay is easy. First, set the unit to the *Normal* [n.] mode. Next, pick up the phone and dial ★3x, where x is the delay time code as shown in Table 3. 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 13.

TABLE 3, 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 |

While in the *Beep* or *Cycle* modes, you can press and hold the RING switch to review the current delay code setting.

Recall Tone Disable Feature (★69)

To disable the CLASS/Recall Dial Tone feature, obtain dial tone and dial ★69. Until the MODE button is pushed, the ★ codes will no longer send the three response beeps and they will be ignored. RING-IT will now start phone ringing with just a single ★ entry, instead of the normal two

(see Quick Dial Feature, page ?). The ★69 code does NOT need be repeated for each call. 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. You can also choose between the Bellcore and Stentor formats. Instructions on selecting these features are found in the *System Programming* section.

The directory number (DN) that is sent in the Caller-ID message is the phone number you used to dial the call. This offers the utmost flexibility and allows you to choose the broadcasted number on a call-by-call basis.

If you are using name and number delivery, one of five pre-stored names is shown, It is dependant on the last digit of the seven or eleven digit phone number that you dialed. See Table 4 for a list of the names that are used.

TABLE 4, Directory of Names

| LAST DIGIT | 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. A Touch Tone telephone is used to set the clock's time.

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 (★) | " ★ " |

In brief, the time setting format is as follows: # ★ MM DD hh mm ★

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 week. The time is reset if AC power is lost.

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 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.

System Programming Feature

RING-IT's factory default settings are optimized for nearly all applications. However, there are several operating features that can be customized to met your special needs. For convenience, the system settings are programmed by using a standard Touch Tone phone.

The programming codes are composed of six digits. They always start with “★47,” are followed by a unique two digit parameter code, then end with a “★.” Table 5 contains a summary list of the parameters and their factory default settings (full details follow this table):

TABLE 5, System Programming Summary

| Programming Feature Description | Programming Code | Default |
|---------------------------------------|------------------|--------------------|
| Operating Mode | ★4701★ to ★4705★ | <i>Normal Mode</i> |
| Auto Dial-Tone Time | ★4710★ to ★4719★ | 0 seconds |
| Network Response Time | ★4720★ to ★4729★ | 1 second |
| CID Number only / Name & Number | ★4730★ to ★4731★ | Name and Number |
| CID Disable / Enable | ★4732★ to ★4733★ | Enable |
| CID Stentor / Bellcore | ★4736★ to ★4737★ | Bellcore |
| CPC Disable / Enable | ★4742★ to ★4743★ | Enable |
| Dial Pulse detection Disable / Enable | ★4746★ to ★4747★ | Enable |
| Display S/W Version | ★4750★ | N/A |
| Reset System | ★4752★ | N/A |
| Restore Factory Defaults | ★4755★ | N/A |
| Save Settings as defaults | ★4759★ | N/A |
| E911 Stutter / Standard Ring | ★4764★ to ★4765★ | Stutter Ring |
| Quick Ring Disable / Enable | ★4766★ to ★4767★ | Enable |
| “#” Mode Reset Disable / Enable | ★4770★ to ★4771★ | Enable |
| Recall Tone Disable | ★4776★ | Enable |
| Speaker Audio Mute Disable / Enable | ★4790★ to ★4791★ | Enable |
| Loop Current High / Standard | ★4792★ to ★4793★ | Normal |
| Re-Order Tone Disable / Enable | ★4796★ to ★4797★ | Enable |
| 2-Way Record Beep Disable / Enable | ★4798★ to ★4799★ | Enable |

Operating Mode

You can change to another operating mode anytime dial tone is heard (not available while in *Dumb* mode). This allows “remote” operation of the MODE button. The following programming codes determine the new setting.

- ★4701★ *Normal Mode* (factory default)
- ★4702★ *Auto Mode*
- ★4703★ *Beep Tone Mode*
- ★4704★ *Cycle Mode*
- ★4705★ *Dumb* (silent) mode.

If you wish the selected mode and the other programmable parameters to be your power-on default settings, then use the “Save Settings” feature described on Page 13.

Auto Dial-Tone Time

Auto mode does not normally offer dial tone before ringing the other line. However, you can elect to provide dial tone for a short period. During the dial tone the caller is allowed to dial a phone number. To change the *Auto*'s dial tone time, use these codes:

- ★4710★ No Dial Tone (factory default)
- ★4711★ One second
- ★4712★ Two seconds
- ★4713★ Three seconds
- ★4714★ Four seconds
- ★4715★ Five seconds
- ★4716★ Six seconds
- ★4717★ Seven seconds
- ★4718★ Eight seconds
- ★4719★ Nine seconds

Network Response Time

To simulate network delay times, the *Normal* mode inserts a short delay before busy and ringing signals. To change the network response delay, use these codes:

- ★4720★ Zero seconds
- ★4721★ One second (factory default)
- ★4722★ Two seconds
- ★4723★ Three seconds
- ★4724★ Four seconds
- ★4725★ Five seconds
- ★4726★ Six seconds
- ★4727★ Seven seconds
- ★4728★ Eight seconds
- ★4729★ Nine seconds

CID Number only / Name & Number

The Caller-ID messages can provide number only or the name/number format. Use these codes to choose which method to use.

- ★4730★ Directory Number Only
- ★4731★ Directory Name and Number (factory default)

You may also dial ★62/★63 control the Caller-ID message format. This is a legacy code.

CID Disable / Enable

The Caller-ID feature can be turned on or off using these codes:

- ★4732★ Disable Caller-ID
- ★4733★ Enable Caller-ID (factory default)

You may also dial ★64/★65 to turn Caller-ID on and off. This is a legacy code.

CID Stentor / Bellcore

The Caller-ID message format is offered in the USA Bellcore format or that Canadian Stentor format. Use these codes to choose which method to use:

- ★4736★ Stentor
- ★4737★ Bellcore (factory default)

CPC Disable / Enable

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 these codes:

- ★4742★ Disable CPC
- ★4743★ Enable CPC (factory default)

Dial Pulse detection Disable / Enable

Both pulse and Touch Tone (DTMF) dialing is supported. You can turn pulse dialing on or off using these codes:

- ★4746★ Disable Rotary-Pulse detection
- ★4747★ Enable Rotary-Pulse detection (factory default)

Display S/W Version

Whenever you apply power to the unit the firmware version is displayed for a short period. You can also review the version number by dialing this code:

- ★4750★ Show Version Number

Reset System

You can restore the default (saved) settings and “reboot” the system with this code:

- ★4752★ Reset System

Restore Factory Defaults

If you wish to restore the factory settings you can dial this code:

- ★4755★ Restore Factory Settings

You may also dial ★66 to restore the factory default settings. This is a legacy code. If you want the restored settings to be your defaults (those that are used when power is first applied) then you must “save” them.

Save Default Settings

Whenever you select new programmable settings they immediately become active. However, they will not be retained when RING-IT loses power unless you “save” them. To do so, just enter this code after all your new settings have been programmed:

- ★4759★ Save Settings

There is an alternate method to save the settings. Just press the RING and MODE Buttons at the same time. 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 them even if power is lost. By the way, there are no batteries to replace.

E911 Stutter Ring Disable / Enable

When 311 and E-911 calls are dialed, the phone's bell will ring with an urgent sounding stuttered pattern. You can turn this feature on and off with these codes:

- ★4764★ Use Standard Ring
- ★4765★ Use Stuttered Ring (factory default)

Note: Regardless of the setting, the ringback tone will NOT stutter and will sound always.

Quick Ring Disable / Enable

Normal mode supports a Quick Ring feature that is controlled by dialing the ★ (star) digit. Instead of dialing a seven or eleven digit number, you can ring the other line by dialing one or two ★ digits. This feature can be turned on and off as follows:

- ★4766★ Quick Ring disabled
- ★4767★ Quick Ring enabled (factory default)

Mode Reset Disable / Enable

While in the *Auto*, *Beep*, *Cycle*, or *Dumb* modes, you can revert back to *Normal* mode by pressing the phone's "#" (pound) digit. Except for the *Dumb* mode, it must be pressed within two seconds after the calling line goes off-hook. This feature can be turned on and off using these codes:

- ★4770★ # Mode Reset Disabled
- ★4771★ # Mode Reset Enable (factory default)

Recall Tone Disable

Normal mode supports CLASS dialing. These are the three digit calls that begin with a ★ (star). You can temporarily disable CLASS by using this code:

- ★4776★ CLASS disabled

You can also dial ★69. This is a legacy feature. If you have disabled CLASS dialing, it can be restored by pressing the MODE button.

Speaker Audio Mute Disable / Enable

The rear panel audio output jack is used to monitor or broadcast the phone line audio. A clever feature is available to prevent excessively high volumes while a DTMF digit is dialed or during loud call progress tones. During these periods, the audio provided by the speaker jack is attenuated (slightly muted) to make it more pleasant. The muting is subtle, but very effective. You can turn this feature on and off with these codes:

- ★4790★ Speaker Muting disable
- ★4791★ Speaker Muting enable (factory default)

Loop Current High / Standard

Nominal loop current is provided to reliably power two standard telephone devices. Sometimes more line current is required. You can control telco loop current using these codes:

- ★4792★ High Loop Current
- ★4793★ Standard Loop Current (factory default)

Note: When high loop current is chosen the CONNECT LED will double-wink every few seconds when the both lines are idle. This acts as a reminder that high current is active.

Reorder Tone Disable / Enable

While in *Normal* mode, if you do not complete dialing, or if an idle phone remains off-hook for an extended time, a fast busy signal will be heard. This is called a reorder tone. Use these codes to turn this feature on and off:

- ★4796★ Disable Re-order Tone
- ★4797★ Enable Re-order Tone (factory default)

2-Way Record Beep Disable / Enable

During 311 and 911 calls, a soft beep is heard every ten seconds. This is a simulated 2-way record beep, as heard on many safety agency phone lines. Use these codes to turn this feature on or off:

- ★4798★ Disable 2-way Beep
- ★4799★ Enable 2-way Beep

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 6, 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 In" to add sound from an external source to your phone conversations. This is a very handy way to place prerecorded 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.

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 system (mono or stereo). You can use a low cost amplified speaker, such as the type that is used with "PC" computer sound cards.

Please see the Speaker Audio Mute programming feature on page 14.

Modular Jack Wiring Format

The modular jacks are wired in the RJ-14 format. The primary line is on the inside pair and the secondary line is on the outside pair. This allows for the convenient use of 2-line telco devices. If yours uses the secondary telephone leads for accessory control (A-leads, lamps, etc.) then you will need to disconnect them from RING-IT.

Digital Products

C O M P A N Y

Folsom, CA USA

Tel 916-985-7219, Fax 916-985-8460

www.digitalproductsco.com