



SN

FTP 175

**Phone Module
Reference Manual**

Front Matter

Abstract

This manual contains information and instructions for installing, operating, and maintaining the FTP 175 Phone Module.

Copyright

Copyright © 2001, Flash Technology Corporation of America[®], Franklin, TN 37067, U.S.A.

All rights reserved. Reproduction or use of any portion of this manual is prohibited without express written permission from Flash Technology Corporation of America and/or its licensor.

Trademark Acknowledgments

Flash Technology Corporation of America[®] is a registered trademark name.

ElectroFlash[™], Flash Tech[™], Flash Technology[™], FTCA[™], Flash[™] and the Flash Technology Logo are all trademarks of Flash Technology Corporation of America.

All trademarks and product names mentioned are properties of their respective companies, and are recognized and acknowledged as such by Flash Technology Corporation of America.

Disclaimer

While every effort has been made to ensure that the information in this manual is complete, accurate and up-to-date, Flash Technology Corporation of America assumes no liability for damages resulting from any errors or omissions in this manual, or from the use of the information contained herein. Flash Technology Corporation of America reserves the right to revise this manual without obligation to notify any person or organization of the revision.

In no event will Flash Technology Corporation of America be liable for direct, indirect, special, incidental, or consequential damages arising out of the use of or the inability to use this manual.

Warranty

All components are fully warranted, under normal operating conditions, for one year.

Replacement Parts

The use of parts not manufactured or supplied by FTCA or unauthorized modification of this equipment voids the warranty.

Pub. No. 0594-175-0001



IMPORTANT!

To ensure safe and efficient operation, please read the following information and observe these guidelines whenever using your FTP 175 Phone Module.

Your FTP 175 Phone Module functions as both a radio transmitter and receiver. When it is ON, the FTP 175 receives and sends out radio frequency (RF) energy. The unit may operate in frequency ranges between 824 MHz and 894 MHz. The FTP 175 employs commonly used frequency modulation (FM) techniques. When you use your unit, the cellular system handling your call controls the power level at which your unit transmits. The power level can range from 0.006-watt to 3 watts.

Exposure to RF (Radio Frequency) Energy

In 1991, the Institute of Electrical and Electronics Engineers (IEEE), and in 1992, the American National Standards Institute (ANSI), updated the 1982 ANSI Standard for safety levels with respect to human exposure to RF energy. After reviewing the available body of research, more than 120 scientists, engineers and physicians from universities, government health agencies and industry developed the updated Standard. In March, 1993, the U.S. Federal Communications Commission (FCC) proposed the adoption of this updated Standard.

The design of your FTP 175 complies with this updated Standard. Of course, if you want to limit RF exposure even further than the updated ANSI Standard, you may choose to control the duration of your calls and operate your phone in the most power-efficient manner.

Safe Operation Requirement

Do not operate your FTP 175 when any person is within 16 inches (40 cm) of the antenna.



WARNING!

Your FTP 175 Phone Module must be placed or mounted on a flat surface to allow proper ventilation. Do not block the air vents as this could cause the unit to over-heat and fail.

Antenna Care and Replacement

Do not use the FTP 175 with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Have your antenna replaced by a qualified technician immediately. Use only a manufacturer-approved antenna. Unauthorized antennas, modifications, or attachments could damage the FTP 175 and will void the Grant of Type Acceptance.

Electronic Devices

Most modern electronic equipment is shielded from RF energy. However, RF energy from cellular devices may affect inadequately shielded electronic equipment.

RF energy may affect improperly installed or inadequately shielded electronic operating and entertainment systems in motor vehicles. Check with the manufacturer or its representative to determine if these systems are adequately shielded from external RF energy. You should also check with the manufacturer of any equipment that has been added to your vehicle.

Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, etc.) to determine if they are adequately shielded from external RF energy.

Potentially Explosive Atmospheres

Turn your FTP 175 OFF when in any area with a potentially explosive atmosphere. It is rare, but your FTP 175 or its accessories could generate sparks. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Areas with a potentially explosive atmosphere are often, but not always, clearly marked. They include fueling areas such as gas stations; below deck on boats; fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

Do not transport or store flammable gas, liquid or explosives in the area of your FTP 175 or accessories.

Vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (FPA-58). For a copy of this standard, contact the National Fire Protection Association, One Battery March Park, Quincy, MA 02269, Attn: Publication Sales Division.

Table of Contents

Section	Page
Section 1 — Introduction	1-1
Introduction	1-1
How to Contact Flash Technology	1-1
Exposure to RF (Radio Frequency) Energy	1-1
FCC Part 15 Class B Compliance	1-1
Specifications	1-2
Section 2 — Installation	2-1
Unpacking	2-1
Tools	2-1
Access to the FTP 175	2-1
Mounting the FTP 175	2-1
Choose an Antenna and its Location	2-1
Antenna Location Tips	2-1
RF and other Electronic Devices	2-1
Antenna Care and Replacement	2-2
Potentially Explosive Atmospheres	2-2
Phone Number Set Up	2-2
Phone Number Set-up Programming by Using an Ordinary POTS Telephone	2-2
NAM/Phone Number Setup—Override Commands	2-3
Optional A-Key (Authentication Code) Programming	2-4
Section 3 — Operation	3-1
How to Use the LED Status Indicator	3-1
How to Place a Call	3-1
How to Receive a Call	3-1
How to End a Call	3-1
Section 4 — Troubleshooting	4-1
Troubleshooting	4-1
Telephone Service is Not Working	4-1
Unable to Receive Incoming Calls	4-1
Moisture or Ventilation Problems	4-1
No Power	4-1
AMPS Technician Programming	4-1
AMPS Technician Programming Commands	4-1
How to Enter the Technician Programming Mode	4-2
How to Set the Access Overload Class (ACCOLC)	4-2
How to Set the Access Method (EX) Option	4-2
How to Set the Roam Option	4-2
How to Set the Dial Tone After Remote On-Hook Option	4-2
How to Set the Post-Receiver Off-Hook (ROH) Option	4-3
How to Set the Pulse Dial Option	4-3
How to Initiate a Ring-Back Request	4-3
How to Restore the Factory Default Settings	4-3
How to Enable/Disable the Zero Dial Delay Option	4-3

List of Tables

Table	Page
RJ-11 Jack Pin Out	1-2
NAM Parameter Setting	2-3
LED Status Table	3-1

Section 1 — Introduction

Introduction

The FTP 175 Phone Module is an innovative product that allows you to connect standard telephone equipment into a cellular network for the communications requirements of your installation.

The FTP 175 Phone Module functions as both a radio transmitter and receiver. When it is ON, the FTP 175 receives and sends out radio frequency (RF) energy. The unit may operate in frequency ranges between 824 MHz and 894 MHz. The unit employs commonly used frequency modulation (FM) techniques. The cellular system handling the call controls the power level at which the unit transmits. The power level can range from 0.006 watt to 3 watts.

Please follow this manual to unpack, set up, and operate your new FTP 175 safely and properly.

How to Contact Flash Technology

Customer Service Telephone: 1-800-821-5825
FTCA Telephone: (615) 261-2000
Facsimile: (615) 261-2600
Shipping Address:
Flash Technology Corporation of America
332 Nichol Mill Lane
Franklin, TN 37067

FCC Part 15 Class B Compliance

The FTP 175 has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC rules. These limits provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be deter-

mined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the antenna.
- Increase the separation between the radio communications equipment and the FTP 175.
- Connect the radio communications equipment into an outlet on a circuit different from that to which the FTP 175 is connected.
- Consult our Customer Service department for assistance.

Specifications

Cellular Network:

AMPS conforming to EIA IS-19B

Operating Frequencies:

Transmit - 824 to 849 Mhz;

Receive - 869 to 894 Mhz

Operating Voltage:

11.5 VDC to 16 VDC

Regulated Power Cord:

12 VDC output @ 10 to 18 VDC input

Current Draw:

Idle - .25A

Call Incoming: - .8A

Full Transmit - 1.5A

Operating Temperature:

-10°C to 50°C

Baud Rates: (See Table 1-1 for Pin Out)

Data - 9.6k bps max; 4.8k bps typical

Table 1-1 RJ-11 Jack Pin Out

USOC Pin	Description
1	No Terminal
2	No Connect
3	Ring
4	Tip
5	No Connect
6	No Terminal

This page is intentionally blank.

Section 2 — Installation

Unpacking

Inspect shipping cartons for signs of damage before opening them. Check package contents against the packing list and inspect each item for visible damage. Report damage claims promptly to the freight handler.

Tools

Although no special tools are necessary, FTCA suggest the following hand tools for installation and maintenance:

- 9- or 12-inch, flat-blade #2 screwdriver
- #2 Phillips[®]-head screwdriver
- Medium, slip joint pliers
- Set of combination wrenches
- Long-nose pliers
- Assorted nut driver handles: 1/4", 5/16", 3/8" recommended
- Triplet[™] Model 630-NA VOM, or equivalent analog volt-ohm meter
- Multi-purpose crimp tool

Access to the FTP 175

The base of the FTP 175 has mounting feet. The cover lifts off for unrestricted access to the interior. Release the latches that secure the cover to remove it for internal access.

Mounting the FTP 175

Use the following guidelines for mounting the unit:

- Ensure that adequate space exists around the equipment for access during installation, maintenance and servicing.
- Allow space for air flow around the unit.

- You must use a bonding strap on a bolt through the unit's case leg. Connect the strap to the site grounding system.

Choose an Antenna and its Location

The FTP 175 receives operating commands from the cellular network and relies upon signal strength for proper operation. Therefore, proper location and installation of the antenna is critical for call quality.

Antenna Location Tips

- Line-of-sight is critical to optimizing operating distance—the higher the antenna, the better the range.
- The antenna cable should not be spliced and should not be run next to electrically “noisy” devices such as generators, power cables, and so forth. The cable may be shortened but the final length is critical to obtaining full power output. Check with a professional antenna installer to be certain.
- Some antennas do not come with connectors. Ensure that you have a “TNC”-type connector to install on the cable.
- Mount the antenna in your pre-selected location and make the cable run to the location of the unit. Install the connector on the cable.

RF and other Electronic Devices

Most modern electronic equipment is shielded from RF energy. However, RF energy from cellular devices may affect inadequately shielded electronic equipment.

Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, and so

forth) to determine if they are adequately shielded from external RF energy.

Antenna Care and Replacement

Do not use the FTP 175 with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Have your antenna replaced by a qualified technician immediately. Use only a manufacturer-approved antenna. Unauthorized antennas, modifications, or attachments could damage the unit and will void of the Grant of Type Acceptance.

Phone Number Set Up

If your FTP 175 was not programmed, you must contact a cellular provider to set up an account. You will need to tell them that the FTP 175 is an analog system and uses the AMPS format.

- If you do not have a preferred local provider, you can contact American Wireless at PH: (800) 422-2394 or FAX: (800) 422-2039. American Wireless can provide cellular activations through many of the available Cellular Service Providers. They can help you select a service plan, set up the account, provide the MIN (Mobile Identification Number) that is the 10-digit phone number and SID (Service Identification Number), step you through the programming process, and answer any questions you may have. Their operating hours are 6 a.m. to 6 p.m. Pacific Standard Time, Monday through Friday, Saturday 9 a.m. to 2 p.m. PST.

NOTE

American Wireless provides activations only. Any questions relating to installation, repair, sales, or warranty should be directed to FTCA as listed at the beginning of this manual. Cellular service questions should be directed to the selected service provider.

- If you do not feel comfortable performing the programming yourself, you can bring this manual and your FTP 175 to one of the retail offices of your selected cellular service provider.

- If you want to program the unit yourself and use your local provider, you will need to get the MIN and SID from them before programming. With this information you can program your FTP 175 using any standard POTS (plain old telephone set) telephone and the following instructions.

Phone Number Set-up Programming by Using an Ordinary POTS Telephone

Using an ordinary POTS (plain old telephone set) telephone, program your FTP 175 as follows:

1. Pick up the POTS handset and listen for a tone (either a steady dial tone or a beeping no-service tone).
2. Enter the Master-Programming mode by pressing:

* 0 * 1 2 3 4 4 3 2 1

The dial tone should change to a different, steady “programming” tone and the LED indicator on the front of your phone unit should blink alternately RED and GREEN to indicate that you’re now in the programming mode. You now have two minutes to begin the following programming steps.

3. Press: **# * 1 * --- --- --- #**

The dashes represent your 10-digit telephone number. (This is also called a Mobile Identification Number, or MIN.) If you enter the number incorrectly, you’ll hear three short tones followed by the programming tone; if correct, you’ll hear the programming tone again.

4. Press: **# * 5 * ----- #**

The dashes represent your 1- to 5-digit System Identifier (SID), which ranges from 0 to 32,767. This information identifies your cellular service provider. (For example, to set up 555, enter **#*5*555#**.) If you enter the SID incorrectly, you’ll hear three short tones followed by the programming tone; if correct, you’ll hear the programming tone again.

NOTE:

Depending on whether you enter an odd SID or an even SID, the FTP 175 will automatically set the remaining NAM parameters to AMPS standards—as shown in the following *Table 1-2*.

Table 1-2 NAM Parameter Setting

Automatically Set NAM Parameters	AMPS Standards	
	Odd SID	Even SID
Initial Dedicated Control Channel	333	334
First Paging Channel	333	334
Number of Dedicated Control Channels	21	21
Preferred System	A	B
Roam Option	Enabled	Enabled

If you need to override any of the settings, continue with the following steps. Otherwise, hang up. The flashing LED indicator will become solid GREEN. Phone number setup is complete.

NAM/Phone Number Setup—Override Commands

NOTE:

The following parameters are automatically set by the SID value in step #4. The following steps are needed only if you want to override the standard AMPS settings listed in Table 1-1.

5. How to Override the Initial Dedicated Control Channel and First Paging Channel:

If you have “A” cellular service provider with an *odd* SID (System Identifier), enter the following 2-part key sequence. *Otherwise, continue to Step 6.*

- a. # * **2 4** * ---- #
- b. # * **4** * ---- #

Note: Enter the same 1- to 4-digit channel in both steps above.

The dashes represent your 1- to 4-digit Initial Dedicated Control Channel and First Paging Channel. When you turn on your FTP 175, these channels help the service provider find you and vice-versa.

NOTE:

The default setting is channel 333 for “A” service providers.

To change the setting, you must enter a 1- to 4-digit number in the range of 0 to 1023. (For example, to set up channel 565, enter # * 24 * 565 #.) If you enter the channel incorrectly, you’ll hear three short tones followed by the programming tone; if correct, you’ll hear the programming tone again.

- 6. If you have a “B” cellular service provider with an *even* SID (System Identifier), enter the following 2-part key sequence:

- a. # * **25** * ---- #
- b. # * **4** * ---- #

Note: Enter the same 1- to 4-digit channel in both steps above.

The dashes represent your 1- to 4-digit Initial Dedicated Control Channel and First Paging Channel. When you turn on your FTP 175, these channels help the service provider find you and vice-versa.

NOTE:

The default setting is channel 334 for “B” service providers.

To change the setting, you must enter a 1- to 4-digit number in the range of 0 to 1023. (For example, to set up channel 566, enter # * 25 * 566 #.) If you enter the channel incorrectly, you’ll hear three short tones followed by the programming tone; if correct, you’ll hear the programming tone again.

- 7. **How to Override the Number of Dedicated Control Channels:**

Press: # * **26** * -- #

The dashes represent your 2-digit range of Dedicated Control Channels. When you first turn on the FTP 175, it automatically scans up to 21 control channels looking for your cellular provider. Then it locks onto the strongest signal.

NOTE:

The factory default setting is 21 channels.

To change the number of channels, you must enter a 2-digit value in the range of 01 to 21. (For example, to set up 9 control channels, enter:

* 26 * 09

If you enter the range incorrectly, you'll hear three short tones followed by the programming tone; if correct, you'll hear the programming tone again.

8. How to Override the System Preference:

Press: **# * 7 * - #**

The dash represents your 1-digit system preference.

Enter: 0 for System "A" preferred.

Enter: 1 for System "B" preferred.

Enter: 2 for System "A" only.

Enter: 3 for System "B" only.

This sets the preference for your cellular provider. If you enter the preference incorrectly, you'll hear three short tones followed by the

programming tone; if correct, you'll hear the programming tone again.

9. Hang up.

The flashing LED indicator will become solid GREEN. Phone number setup is complete.

Optional A-Key (Authentication Code) Programming

Depending upon your cellular service provider, you may be required to enter an Authentication Code (A-Key) before you make or receive any calls. **Contact your service provider to determine whether A-Key is required.**

The A-Key is a cellular system solution to prevent cloning, counterfeiting and cellular fraud. It's a unique, 8- to 26-digit code provided by your service provider that validates your MIN (Mobile Identification Number) and ESN (Electronic Serial Number) before you make or receive calls. Once you've entered the A-Key, your FTP 175 automatically verifies the code with the cellular provider before every call. There's no need to re-program the unit, unless you switch to a new service provider or change your MIN.

Use the following key sequence to program the A-Key:

Press: **# * 27 * <A-Key> #**

The < > brackets represent your 6- to 26-digit A-Key (Authentication Code), which is supplied by your cellular service provider.

Section 3 — Operation

Once your FTP 175 is installed and tested, it's ready for operation.

How to Use the LED Status Indicator

1. Apply power to the unit.
2. As soon as power is applied, the LED status indicator will illuminate. Wait approximately 10 seconds for the unit to initialize.
3. *Table 3-1* describes the modes and operation of this 3-color indicator.

Table 3-1 LED Status Table

LED Color	LED Activity	Description
RED	Flashing	Malfunction. Hardware fault detected.
RED	Continuous	No cellular service.
YELLOW	Continuous	Moderate cellular signal strength.
GREEN	Continuous	Best cellular signal strength.
RED/GREEN	Flashing	Diagnostic/programming mode.
OFF	None	No Power.

How to Place a Call

1. Pick up your telephone handset (your phone is now “off-hook”).
2. Listen for the dial tone. (If service is not available, a No-Service tone is produced. Hang up the phone and try again.)
3. Dial the phone number.

How to Receive a Call

When your telephone rings, pick up the handset and begin talking.

How to End a Call

Hang up the phone (place the handset back onto the telephone cradle).

This page is intentionally blank

Section 4 — Troubleshooting

Troubleshooting

WARNING

Only authorized service personnel should remove the cover of the Phone Module. For further assistance, contact FTCA Customer Service at 1-800-821-5825.

Telephone Service is Not Working

- If the telephone service is not working, first check the operation of the telephone equipment and wiring connections and inspect for corrosion. Test the equipment on a different service or land line to insure proper equipment operation or connect a known good telephone device to the RJ-11 port and test. This will verify the condition of the telephone equipment and the installed wiring. If the phone equipment itself is determined to be in working order, contact FTCA Customer Service for additional troubleshooting assistance.
- If the LED indicator stays RED, check your antenna connection and connector installation. If the antenna and connection are sound, contact your service provider.
- If the LED indicator remains YELLOW, you are probably in a fringe coverage area and operation may be intermittent.
- If the LED indicator flashes RED, call FTCA Customer Service.

Unable to Receive Incoming Calls

If more than one telephone or telephone device is connected to your unit, make sure that all devices are “on-hook” (hung up). If one extension is “off-hook” (off its cradle), none of the extensions on your phone line will ring when an incoming call occurs.

Moisture or Ventilation Problems

Ensure your unit is located in an area that is out of the elements and not subject to splash, spray, or excessive moisture and receives adequate ventilation.

No Power

The LED lamp on the front of the FTP 175 Phone Module indicates the unit’s power condition. If the LED is RED, YELLOW or GREEN, the unit is receiving power. If the power cord is connected and the LED lamp is not lit the unit is not receiving power. Verify that all power sources and corresponding circuit breakers are functioning properly.

AMPS Technician Programming

IMPORTANT

The following commands may be used by a trained service technician to change the configuration of the Phone Module. **WARNING:** These commands are intended for use by trained service technicians only. Untrained users could damage the unit, violate local regulations, and breach the service agreement with the cellular provider.

AMPS Technician Programming Commands

The FTP 175 can be programmed on location with an ordinary telephone, which is sometimes referred to as a POTS (Plain Old Telephone Set) phone.

NOTE:

The Technician Programming Mode is not accessible while in a call.

In the following sections, an *<entered value>* is composed of the digits 0 through 9. The digits “*” and “#” are considered invalid when used inside an *<entered value>*, and will cause that command/value to be rejected.

When you enter the programming mode, a timer is started. If there are no key entries within any 2-minute period, the FTP 175 Phone Module (also known as the FWT; or Fixed Wireless Terminal) will revert to its normal mode.

Going on-hook (hanging up the phone) will exit the programming mode.

How to Enter the Technician Programming Mode

Use the following access code to enter the programming mode:

* 0 * 1 2 3 4 4 3 2 1

The access code is eight digits. If the access code is not eight digits or does not match the stored access code, the Technician Programming Mode cannot be entered. This code is preprogrammed during production and cannot be changed in the field.

If you enter the access code correctly, the dial tone should change to a different, steady “Programming” tone and the LED indicator on the front of the phone module will blink alternately RED and GREEN to indicate that you’re in the programming mode.

How to Set the Access Overload Class (ACCOLC)

Use the following key sequence to set the ACCOLC:

* 2 * <ACCOLC>

The <> brackets represent the 2-digit ACCOLC. You must enter a 2-digit value between **00** and **15**, otherwise the FWT will not update or store this value; the existing stored parameter will remain. (For example, to program the FWT for ACCOLC 8, enter:

* 2 * 08 #.)

How to Set the Access Method (EX) Option

Use the following key sequence to set the EX options:

* 3 * <EX option>

The <> brackets represent the 1-digit EX option:

- Enter **1** if the FWT must always send the full MIN (Mobile Identification Number) when accessing the system.
- Enter **0** if the FWT need not send the full MIN when accessing the system.

You must enter either **0** or **1**, otherwise the FWT will not update or store this value; the existing stored parameter will remain. *The factory default setting is 1.*

How to Set the Roam Option

Use the following key sequence to set the Roam option:

* 6 * <Roam option>

The <> brackets represent the 1-digit Roam option:

- Enter **0** to enable roaming
- Enter **1** to disable roaming.

You must enter either **0** or **1**, otherwise the FWT will not update or store this value; the existing stored parameter will remain. *The factory default setting is 0.*

How to Set the Dial Tone After Remote On-Hook Option

Use the following key sequence to set the Dial Tone After Remote On-Hook option:

* 8 * <Dial Tone option>

The <> brackets represent the 1-digit Dial Tone option:

- Enter **0** for no dial tone after a remote on-

hook.

- b. Enter **1** to enable dial tone after a remote on-hook.

You must enter either **0** or **1**, otherwise the FWT will not update or store this value and the existing stored parameter will remain. *The factory default setting is 1.*

How to Set the Post-Receiver Off-Hook (ROH) Option

Use the following key sequence to set the post-ROH option:

* 9 * <Post-ROH option>

The <> brackets represent the 1-digit Post-ROH option:

- a. Enter **0** for continuous ROH tone.
- b. Enter **1** to turn off ROH tone and periodically check for an on-hook condition.

You must enter either **0** or **1**, otherwise the FWT will not update or store this value and the existing stored parameter will remain. *The existing factory default setting is 1.*

How to Set the Pulse Dial Option

Use the following key sequence to set the Pulse Dial option:

* 12 * <Pulse Dial option>

The <> brackets represent the 1-digit Pulse Dial option:

- a. Enter **0** to disable pulse dialing.
- b. Enter **1** to enable pulse dialing.

You must enter either **0** or **1**, otherwise the FWT will not update or store this value; *the existing factory default setting is 1.*

How to Initiate a Ring-Back Request

Use the following key sequence to initiate an immediate Ring Back:

* 13 *

There is no Ring Back value to be entered; the command activates when the phone is placed on the hook.

How to Restore the Factory Default Settings

Use the following key sequence to restore the factory default settings:

* 15 *

There is no value for Restore Defaults to be entered; the command activates immediately. If you enter a value, it will be invalid and the FWT will not restore the factory defaults.

NOTE:

NAM (Phone Number Setup) data is not affected by this command and will not be changed.

How to Enable/Disable the Zero Dial Delay Option

Use the following key sequence to set the Zero Dial Delay option:

* 21 * <Zero Dial Delay option>

The <> brackets represent the 1-digit Zero Dial Delay option:

- a. Enter **0** to disable Zero Dial Delay.
- b. Enter **1** to enable Zero Dial Delay.

You must enter either **0** or **1**, otherwise the FWT will not update or store this value and the existing stored parameter will remain. *The factory default setting is 1.*

~~ END OF DOCUMENT ~~