

Uni-2010 Programming Instruction Manual

**February 2011
Revision 1.2**



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Quick Instruction Overview

0n Play recorded message n where n = 1 to 8. (Page-30)
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0*n Delete message n where n = 1 to 8. (Page-30)
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7n Set Gate1 Cycle Interval in 5 second periods. (Default = 3) (Page-10)
7#n Set Gate2 Cycle Interval in 5 second periods. (Default = 3) (Page-10)
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Quick Residence Dialer

The programming of this product is a close match with former Trigon Residential Dialers. You may program via the Keypad or Remote Touch Tone by calling the Unit.

Note: Remote Touch Tone Programming does not allow Edits of Text Data Fields.

To Access Programming Mode:

Push Call Button at the Unit's Front Panel. You should hear a false Dial Tone. Or you may call the Unit and wait for the Unit's Answer Tones.

Enter the Programming Mode using key sequence: *2468. (former units used *5269)
You should hear two "ACK" tones and the panel display, if available, shows "Program Mode".

Creating a New Resident with a Phone Number Assignment:

Format: #0 123*5551212# (Beep-Beep)

Where:

#0 is the command to Create or Modify a Resident's data.

123 defines the Resident's Code. (This is the Code a Visitor dials to call a Resident)

The * key separates the Resident Code from their Home Phone Number.

5551212 is their specific Home Phone Number up to 16 digits.

The # key terminates this Command.

(Beep-Beep) means the Command was accepted or "Long-Tone" means Command was rejected.

Obviously, replace the 123 and the 5551212 above with the correct desired numbers.

New! Resident Codes may now be variable length of 1 to 4 digits mixed.

New! Multiple phone numbers may be allowed per Resident on special request.

Enter: #0 123*5551212# Assigns or replaces Resident 123's 1st Phone Number.

Enter: #0 123*2*5551212# Assigns or replaces Resident 123's 2nd Phone Number.

Enter: #0 123*3*5551212# Assigns or replaces Resident 123's 3rd Phone Number.

Enter: #0 123*3*# Deletes Resident 123's 3rd Phone Number.

Enter: #0 123# Deletes Resident 123 entirely from System.

Entry Codes assigned to Specific Residents:

New! Multiple Entry Codes and Card Codes are allowed per Resident on special request.

New! Entry Codes are now mixed variable length of 1 to 6 digits per.

Enter: #1 123**2468# Assigns Resident 123's 1st Blank Position with Entry Code of 2468.

Enter: #1 123*1*1357# Assigns Resident 123's 1st Entry Code as 1357.

Enter: #1 123*2*2468# Assigns Resident 123's 2nd Entry Code as 2468.

Enter: #2 123*1# Deletes Resident 123's 1st Entry Code.

Enter: #2 123# Deletes all of Resident 123's Entry Codes.

Card Codes assigned to Specific Residents:

Enter: #1 *123**13579# Assigns Resident 123's 1st Blank Position with Card Code of 13579.

Enter: #1 *123*1*13579# Assigns Resident 123's 1st Card Code as 13579.

Enter: #1 *123*2*24680# Assigns Resident 123's 2nd Card Code as 24680.

Enter: #1 *123**44444# Assigns Card Code of 44444 to 1st Blank Card Code position.

Enter: #2 *123*1# Deletes Resident 123's 1st Card Code.

Enter: #2 *123# Deletes all of Resident 123's Card Codes.

Enter: #9# Edit 1st Residents Name for Directory Display. (see page 9)

Enter: #9 123# Edit Resident 123's Name for Directory Display. (see page 9)

Enter: ## Exits Programming Mode.

Please do not presume 100% compatibility with the original MiniGuard Command Set.

Quick Single Button Dialer

The programming of this product is a close match with former Trigon Single Button Dialers. You may program Unit via Remote Touch Tone by calling the unit or use the optional Keypad.

Access Programming Mode:

Call the Unit and wait for the Unit's Answer Tones or use the optional Keypad.

Enter Programming Mode using tone-key sequence: *2468. (former units used *9753)
You should hear two "ACK" tones and the panel display, if present, shows "Program Mode".

Program a Phone Number(s) to Dial:

Format: 2 1 5551212# (Beep-Beep)

2 is the Command to store a Phone Number.

1 is the Desired Position in a List, with 1 as the 1st position, 2 as the 2nd, etc.
5551212 is the Phone Number, up to 16 digits, dialed when the Call Button is pushed.
The # key terminates this Command.

(Beep-Beep) means the Command was accepted or "Long-Tone" means the Command was rejected.

Example: 2 1 5551212# Sets the 1st phone number to 5551212.

Example: 2 2 5551234# Sets the 2nd phone number to 5551234.

If you set the 1st phone number blank, as in "21#", the unit will be in Ring-Down Mode.

Enter: 2*6 Sets the ring roll over limit to 6 rings after dialout.
After dialing and detecting 6 rings the next number in your list is then tried.

At the end of the list you may restart the list from the top or just stop trying.

Use Command:

Enter: 4#0 Sets Unit to stop dialing at the end of the phone number list.

Enter: 4#2 Sets Unit to restart dialing again from the top of the phone number list.

Enter: 60 Enables Unit to detect Ring and Busy tones needed for list dialing.

Enter: 61 Disables tone detection, forcing the Unit to be a one number dialer.

Note: Adding 2 to the Commands just above (62 or 63) replaces a Voiced Announcement with a False Dialing sound. This lets the Visitor know that a Call has been placed.

Enter: 71 Sets the Gate Open Time to 5 seconds (1 x 5-Seconds = 5 Seconds)

Enter: 73 Sets the Gate Open Time to 15 seconds (3 x 5-Seconds = 15 Seconds)

Enter: 70 Sets the Gate Open Time to just a quick Pulse for Sliding Gates.

Enter: 8 120 Sets the Call Length Limit to 120 seconds, before automatic hangup.

Enter: 8 060 Sets the Call Length Limit to 060 seconds, before automatic hangup.

Enter: 1 1234 This sets the Unit's Site ID to 1234. (default)

Enter: 3 2468 This sets the Unit's Program Access Code to 2468. (default)

Enter: ## This terminates the Program Session and Unit is ready to operate.

Please Note: This one page Guide is for those users of Trigon's HF2 line of products. Shown here is the minimum amount of detail needed to make this unit work as desired.

This is, by no means, the limit on this Units abilities. Please read those sections in this manual that fully explain the Options and Commands that are available or relevant to your needs.

Please do not presume 100% compatability with the original HF2 Command Set.

Basic Operation Guide

This unit has two basic modes of operation.

1. Residential Dialer. (MiniGuard-2 Series)
2. One Button Dialer. (HF-2 Series)

As a Residential Dialer: A keypad is supplied for the purposes of dialing a residence or office inside a multi-number business or apartment complex.

Residential Dialer Procedure:

A Visitor arrives to face a locked entry gate. The visitor finds the desired party, via some form of directory, that has the authority to grant them entry. Once they spot the party they wish to visit on the directory, they should notice a short code number assigned to that same party. They push the call button and dial the short code number. Hopefully, their party will answer and identify the visitor by voice. The inside party then sends a touch tone command to briefly unlock the entry gate and permit the visitor entry. The unit then resets itself and is now ready for the next visitor.

If a Resident has several phone numbers and this unit allows several numbers per resident, then you must enable Call Progress in the Dialer Modes to redial properly. Then the 1st number is dialed, and if busy or extended ringing is detected, it proceeds to try the 2nd number. If all attempts fail and you wish to loop back to the 1st number again, then enable Dial Looping. The Call Limit Timer stops this from looping forever. Voice detection is by non-symmetrical tones on the line which prevents redialing and enters answered mode.

Residents or office workers may gain entry access into their own building by using an assigned entry code at the keypad. Residents may also have been given an electronic pass card or Fob that can be used near an electronic reader to grant personal entry.

Programming of this unit may be done via the local Keypad, remotely via Touch Tones, via 56K Modem and via direct PC connection through Rs232 or Rs485. The PC must have TriComPro software installed on it. Also, we have a Lan Module that can replace the 56K modem if a Local Area Network connection is desired. A unit thus equipped can then also be programmed via the internet, if supplied with a net connection with a static router IP address.

As a One Button Dialer: A call button is supplied for the purpose of dialing a specific number into a business, emergency, or security center.

One Button Dialer Procedure:

A visitor arrives to face a locked entry gate. They push the call button and wait for a response from inside. Hopefully, their call is answered and identification of the visitor is done by voice. The inside party then sends a touch tone command to briefly unlock the entry gate and permit the visitor entry. The unit then resets itself and is now ready for the next visitor.

Employees or office workers may gain entry access into their own building by using an assigned entry code at the optional keypad. Employees may also have been given an electronic pass card or Fob that can be used near an electronic reader to automatically register a special access control number to grant personal entry.

Programming of this unit may be done via the local Keypad, remotely via Touch Tones, via 56K Modem and via direct PC connection through Rs232 or Rs485. The PC must have TriComPro software installed on it. Also, we have a Lan Module that can replace the 56K modem if a Local Area Network connection is desired. A unit thus equipped can then also be programmed via the internet, if supplied with a net connection with a static router IP address.

This new product release has the potential to be custom setup by the end user to operate in either version modes. In fact, it can be one version by day and the other by night.

It's really that flexible.

Basic System Overview

Trigon Electronics is proud to announce the release of our 3rd generation Universal Board. The first release was April-1991 and used in our first HF1. Since that time, the foot print of the board has remained the same. But over 500 programs have been developed for that board. Nearly half of those are custom programs for our special customers. We pride ourselves on being the easiest folks to work with for custom requirements in this field.

This board is the work horse at the center of most of our designs. This latest release represents a quantum leap in sheer processing power and customization capabilities.

Features of the new Universal-2010 System Hardware:

- All batteries are eliminated. (including those for the clock and static memory)
- 128K 16-bit CPU at 8-Mhz. (was 16K 8-bit CPU at 2-Mhz)
- 128K Database Memory. (was 32K)
- 8 Message Voice Recorder. (was 1 short message)
- 56K Modem. (was 2400 baud modem)
- Caller ID. (new)
- LAN Interface. (new)
- 1 Rs232 Interface. (External Rs232, Modem or Lan usage)
- 1 Rs485 Interface. (new)
- Full Duplex Speaker Phone. (was half duplex)
- 3 Relays. (was 2)
- 2 Generic Isolated Closure Inputs. (new)
- 2 Direct Connect Wiegand Inputs. (new)
- Ada Lamp. (was optional on some HF2 units)
- Multi-Channel Analog Crosspoint switch. (new)
- Automatic Volume Control. (new)
- Auxiliary 5V supply at 500 mA. (new)

Features of the new Universal-2010 System Software:

- Ultra Multi-Tasking Event Driven Program. (new)
- Template Controlled Architecture. (new)
- TED or Trigon Electronics Doorman Modes. (new)
- Direct Keypad Dial of Residential Phone Numbers. (new)
- Resident Capacity to 4000. (was 1000 max)
- Pooled Card Codes to 10,000. (was 1000 max)
- Pooled Entry Codes to 10,000. (was 1000 max)
- Programmable Functions vs Touch Tones. (new)
- Problem Free Multi-Unit Line Sharing. (new)
- Variable Length Entry and Resident Codes. (were all fixed length)
- Site Codes for Cards. (none before)
- 16 Digit Phone Numbers. (was 12)
- Zoning for Residents and all types of Codes. (none before)
- 99 Time Zones. (was optional 3)
- Clock with Auto Leap Year and Auto Daylight Savings Time. (was just a clock)
- Multiple Phone Numbers, Entry codes and Card Codes per resident. (new)
- 3 Custom Greeting Screens. (was 1)
- Dual Sequential Dialing Lists. (only on HF2 before)
- Special Function Code Range Mapping. (new)
- Anti-Pass Back on Cards. (new)
- Auto-Delete after use for Codes and Cards. (new)
- Multiple Security levels. (new)
- Custom Macro Programming by End User. (new)
- All units compatible with "TriComPro-4" PC Programming Support Language. (was optional)

The lists above are far from complete and also don't include subjects that haven't changed. Please call and ask Trigon for details about anything mentioned above, if you can't find enough information desired within the confines of this condensed manual.

This page describes a few details about some features that may not be obvious in a quick browse of this manual.

Trigon Electronics Doorman or TED:

This function is available in all dialer modes. Basically, it acts like a Doorman and places itself between a Visitor and Resident. When a visitor attempts to call a resident, TED responds and requests identification via voice. The visitor is placed on hold and the resident is contacted. The recorded identification is played for the resident. The resident may then deny entry without confirming to the visitor that they were ever contacted, or even at home, at the time of the call. So, in a sense, it is a glorified answering machine. The resident may also grant entry or request vocal communication if so desired. The voice of TED is pre-recorded in the unit. The end user may choose to replace TED's voice with their own message preferences, or even another language, as needed.

Event Driven Operation:

Unlike most programs that trace a linear operation path from start to finish, this unit employs a unique program structure that is a collection of modules. These modules are linked together via a template to give the illusion of sequence. Each module ends as an event. This event triggers the next module into activation. This was done so that units are easily customizable. A simple alteration in the template can result in a completely different type of product or different type of behavior. Thus, this unit can be set via template to become any one of the several hundred custom versions released over the last two decades by Trigon. There are over 100 custom templates built into the program and can be evoked, via touch tone, with a 4 digit security code by us. We can also do a complete customization via touch tones with our Template Builder Program. This is a 35 byte transmission that naturally takes much less time than uploading the whole core program over a phone line. So, if your unit can't do what you want after it's installed, we can probably reconfigure it to your special needs, just minutes after the request is made.

Note: This doesn't open the product to security risks as the communications utilize a complex bi-directional encryption technology.

Macro Commands:

We have also decided to allow the end user to implement custom modifications to their product after purchase. These are rather simple modifications using Macro Commands programmed into a table. It takes advantage of our modular program to insert special behaviors into their program at specific points. Thus, a chain of events can be stopped, redirected to a new series of events or have a new sequence of events inserted between two normal events. This is rather advanced stuff and while you can't hurt the product, one may install a new behavior with somewhat unpredictable results, as is the case in any true programming environment at the mercy of folks unfamiliar with some programming concepts.

JIT:

JIT stands for "Just In Time". This usually means postponing the definition of a product until the last possible moment. We at Trigon have embraced this concept to the Nth Degree. This means that our distributors may stock a few select Trigon models based solely on the units packaging style. Thus, instead of stocking many dozens of Trigon Models, they only need stock a few basic models. The exact model doesn't have to be defined until the unit is already installed at the end users site. Imagine if you order an automobile that is delivered in a box. Upon delivery, you push a button on the box and the car inside assembles itself into the make and model you specifically wanted. That's JIT Engineering.

If the end user decides after delivery that the unit isn't what they expected, or received last time they bought one, then no problem. We reconfigure the product on-site without a service call. Unfortunately, we can't make a keypad magically appear on the face of the unit, but we are working on that too. With high level in-field customization, we hope many will recognize the opportunities presented in opening up new markets with a product based on their own unique definitions.

Basic Programming

In this section we will review the basics of programming the unit via touch tone or via local keypad.

Touch Tone programming the unit obviously requires the unit to be powered and connected to a phone line that can be called. Even if the unit has a Modem installed, you are given a brief opportunity to use touch tones. Simply wait for the unit to answer a call placed to it. It will play a brief answered melody. You have about 6 seconds to send a touch tone command before the Modem switches on. This allows you to latch or unlatch a gate control or put the unit into programming mode. Any touch tone command will suspend the unit from going into modem mode. Once the unit has answered, enter the code ***2468** to enter programming mode if desired.

On a residential dialer you may have to push the call button first for a simulated dial tone. Then enter: ***2468** command sequence to enter the programming mode. Units with displays use the "*" key in the directory browser routines so the Call Button is required first.

You will get a two tone sequence that is made every time you finish something correctly. Programming commands fall into 3 categories.

Commands that start with a number follow a format much like our one button dialers. Commands that start with a "#" key follow a format much like our residential dialers. Commands that start with a "*" key are new and used to display or transmit data.

All commands that start with "*" are harmless. Do not use these commands via touch tone programming because the data is almost worthless without a tone decoder. Also, you run the risk of getting lost in the remote programming sequences.

All commands are entered as a sequence of digits that may include additional "*#" tones. When the command is fully entered, use the "#" tone or key, to terminate the command.

If the command is understood you will hear that familiar two tone acknowledgment. If the command was faulty, you may hear a long single tone that indicates an error was made on your part in either format or function requested.

A typical function error will be generated if you try to load a number into a position that doesn't exist, such as installing a card code to a database that is not enabled. In this case it is a legal documented command that can't be performed.

A format error is produced by installing a 7 digit entry code when entry codes are restricted to 6 digit lengths.

Refer to Page 1 for a quick summary of all generic commands.

Refer to the specific detailed pages for commands when the quick summary hasn't enough detail to correctly enter your data. Also, many commands have subsets and variations that allow more explicit abilities. For example a command may be used to drop a value into the first empty position. But given there might be 8 available positions to place this value, you might need to be more specific. So it's always a good idea to check the details on any given command. You might even see that some commands have cool shortcuts that could save time in loading data.

The "*" command is great for those with display units during keypad programming. All variables and data can now be displayed and browsed through.

Also, from the keypad, if you think you might have messed up: Just hold down the "*" key for 3 seconds. It will send you the dual ack-tones indicating the command was aborted.

Exit the programming mode with two "#" keys in sequence.

Basic Text Editing

This page describes the method for Entering Text, such as people's names, into the units database for Directory, Visitor Greeting or Custom Prompts.

Command to activate: #9# starts at beginning, or #9 123# starts at Resident Code 123.

Note: For those that have programmed previous Trigon Products, this new method replaces the old method of entering text information! It was changed because this new method is far more intuitive and doesn't result in appreciably more key strokes than the former method.

Like the former method: The "*" key moves the cursor up one line.

Like the former method: The "#" key moves the cursor down one line.

Like the former method: The "0" key moves the cursor right one position.

To obtain a letter, just tap the key with the letter desired. The first letter on the key is the first letter displayed. Tap the same key again for the next letter and again for the 3rd letter. A 4th tap will produce the numerical value of the key. It's that easy.

Note: The "1" key has a few extra taps enabled. These are for letters not found on a standard keypad and some punctuation that may prove useful.

The "1" key:

1st tap produces Blank Space.

2nd tap produces letter "Q"

3rd tap produces letter "Z"

4th tap produces number "1"

5th tap produces period character "."

6th tap produces minus character "-"

7th tap produces slash character "/"

8th tap produces colon character ":"

Note: You cannot edit text via touch tones. Allowing this has resulted in too many errors in past products because the person programming is basically working blind.

To move the cursor left, you must use the "0" key and move the cursor right until it wraps back to the the start of the line. In most cases, it may be faster to jump up or down one line then return to the desired line. Generally, when you progress to another line, the cursor is homed on the left side of the next line. So the sequence: "*#" or "#*" is the 2 key stroke equal of a cursor home to left command.

Note: When entering names in the directory, **do not** include a string of periods to connect the name with the code as this is now done automatically by the unit during directory browsing by a visitor.

Note: You do not need to place the Resident Name in any alphabetical order as this is done automatically for you, after you exit the programming mode.

To EXIT the text editor: Hold down the "*" key for several seconds until the ack-tones are heard. This method always saves your current editing efforts.

You may also hang up via handset or by pushing the call button. However this method doesn't promise to retain changes made on the current line or the whole screen.

Note: You cannot access lower case letters via keypad programming. This Keypad Edit method is only provided for those that prefer to program the hard way with the greatest possible discomfort levels.

Alternative programming via Modem, Lan or direct PC connection allows the full font and all punctuation characters to be accessed in a much more comfortable manner. And the support software is free from Trigon. It's called TriCom Professional Revision 4.0.

Detail Programming Setup Values

Setup refers to the basic values applied to normal operation. These would include such values as the time it takes to cycle an access gate or the maximum duration a phone call is allowed. All values are preset to factory defaults as the most commonly requested.

In many cases little or no attention is required for this section. If your unit has been ordered with these values preset to specific custom values, then no need to change these values should exist.

There is no real specific order to these values, so the following will cover each setup value in full detail and the commands to change these values as needed.

Note: If your unit comes equipped with a display then the entire setup area can be browsed using command sequence:

*2468 to enter Program Mode.

*#0 to Display Setup.

* key to view the next item.

key to resume Program Mode from the top.

key sequence to exit Program Mode.

Gate 1 Time: (Defaults to 3)

Command to set: 7n Where "n" is the value of 5 second intervals.

This value is a single digit from 0 to 9. When multiplied by 5 gives the duration in seconds that the primary gate control relay is engaged for allowing entry.

Thus: 1 = 5 seconds, 2 = 10 seconds, 9 = 45 seconds maximum.

Special case is the value zero "0". It provides a one second pulse only for special gates.

Gate 2 Time: (Defaults to 3)

Command to set: 7#n Where "n" is the value of 5 second intervals.

This value is a single digit from 0 to 9. When multiplied by 5 gives the duration in seconds that the second gate control relay is engaged for allowing entry.

Thus: 1 = 5 seconds, 2 = 10 seconds, 9 = 45 seconds maximum.

Special case is the value zero "0". It provides a one second pulse only for special gates.

Gate 3 Time: (Defaults to 3)

Command to set: 7*n Where "n" is the value of 5 second intervals.

This value is a single digit from 0 to 9. When multiplied by 5 gives the duration in seconds that the third gate control relay is engaged for allowing entry.

Thus: 1 = 5 seconds, 2 = 10 seconds, 9 = 45 seconds maximum.

Special case is the value zero "0". It provides a one second pulse only for special gates.

Alarm Time: (Defaults to 3)

Command to set: 8#n Where "n" is the value of 5 second intervals.

This value is a single digit from 0 to 9. When multiplied by 5 gives the duration in seconds that the Tamper Alarm is engaged for locking out further tampering.

Thus: 1 = 5 seconds, 2 = 10 seconds, 9 = 45 seconds maximum.

Special case is the value zero "0". This value shuts off the Tamper Alarm Timer but still creates the Alarm Event for Macro Command interception and logs it to the audit log.

During a Tamper Alarm Activation, the system will play a melody at the speaker and disable keypad and cardreader inputs for the alarm duration. This hampers a person who is trying to discover an access code by random guesses or random cards. It uses a "3 strikes your out" method before the alarm engages. Each single false trial there afterwards will trip the alarm again until a good code has been input and accepted by the system. At that time the strike counter is reset back to zero.

Detail Programming Setup Values Continued

Ring Hit Counter: (Defaults to 3)

Command to set: 5n Where "n" is the number of rings counted before auto answering.

When the unit is called ring hit cycles are counted.

After the first ring hit, the unit will automatically absorb Caller ID if the Modem is installed. The caller ID is retained in the audit log.

This ring hit counter serves many different functions as follows:

If the Ring Hit Count value is set to zero "0":

After optional Caller ID is absorbed the unit will answer with a melody.

It will then wait for 12 seconds during which touch tones are tested for.

If a two digit touch tone number is received then a test is made for a match with this units preprogrammed extension codes. If it matches the Touch Tone Extension Code then the unit will remain in the answer mode and all other units sharing this line that don't match the extension code will dismiss themselves. In this way several products may share the line and the caller may specify which units to dismiss and which one is to remain for programming or other purposes. All line sharing units must be programmed to respond with this same method and each must have a unique two digit extension code assigned.

If the two digit touch tone code is a match with the units Modem Extension Code then that unit will switch to Modem Answer Mode while all others dismiss themselves. This technique allows multiple units with Modems to share a common line. The trick to this is to program the PC dialer program to dial the phone number that several Modem units may share. The number to dial must include about 8 seconds of embedded pause time before dialing the remaining two digits of the phone number. All units sharing the line will answer at the same time and wait for two additional touch tone digits. This PC dialer uses embedded pauses after the full primary phone number, then the two final phone number digits. The dialer is unaware the Modems have all answered already and completes dialing the phone number as directed. Thus the PC dialer can be specific to which unit it connects to.

The dialer number would look like this: 5551212,,,,,,99 (comas are treated as pauses)

This method is also useful if one wishes to have the dual ability to call a unit that has a Modem but needs the touch tone mode, rather than Modem mode, so touch tone commands can be issued to latch a gate open, etc.

If the Ring Hit Count value is set to "1,2,3,4,5,6 or 7":

Any of these values simply cause the unit to count that number of full rings before automatically answering the incoming call. If a Modem is installed, it will activate within 6 seconds upon answering, before which normal touch tone functions can be employed.

If the Ring Hit Count value is set to eight "8":

This mode employs audio ring to the units speaker and allows the incoming call to be answered manually by pushing the call button or lifting the handset. The call must be manually answered before the 8th ring. Otherwise the unit will divert to auto answer in the extension code mode as described above for setting the ring count to zero.

If the Ring Hit Count value is set to nine "9":

This mode employs audio ring to the units speaker and allows the incoming call to be answered manually by pushing the call button or lifting the handset. The call must be manually answered before the 9th ring. Otherwise the unit will divert to auto answer in the normal mode as described above for setting the ring count to 1,2,3,4,5,6 or 7.

Manual answer modes are most often employed on the one button dialers. The unit is usually mounted near the security guard at the gate portal and calls can be placed to the security guard from inside the building to give special instructions about lunch breaks or traffic to be expected. The unit retains it's ability to be remotely programmed by simply ringing it long enough to auto answer for programming or other purposes.

Note: In manual answer modes Relay 3 is engaged during ring hits for lighting a ring alert lamp, just in case the guard can't hear the ringing sound from the speaker.

Detail Programming Setup Values Continued

Dialer Modes: (Defaults to 1)

Command to set: 6n Where "n" is the method the unit employs for dialing functions.

Options are:

n=0 with call progress, false dial=off, verify dialtone=off
n=1 without call progress, false dial=off, verify dialtone=off
n=2 with call progress, false dial=on, verify dialtone=off
n=3 without call progress, false dial=on, verify dialtone=off
n=4 with call progress, false dial=off, verify dialtone=on
n=5 without call progress, false dial=off, verify dialtone=on
n=6 with call progress, false dial=on, verify dialtone=on
n=7 without call progress, false dial=on, verify dialtone=on

Call Progress must be allowed (with) if the unit is expected to respond to a Busy Signal, Ring Signals or Voice detection for the purposes of redialing another number on Busy detection or Voice Detection as required for the electronic doorman (TED) operation. Without Call Progress being enabled, the unit reverts to a simple single number dialer and TED will not function as desired.

False Dial On forces the unit to create the impression to the visitor that it has dialed a number. It makes random Touch Tone sounds to the speaker as if speed dialing. This gives the visitor a sense that the unit is working and pre-empts their inclination to pump the dial button, as if that will speed the process up like is mistakenly believed with elevators and traffic lights.

False Dial Off results in a voice that declares that the dialing process is in action by playing system message #2 "Dialing in progress, please stand by" to the visitor. If message #2 is diverted to another function or disabled, then it's a good idea to enable false dialing.

Verify Dial Tone forces the unit to test the dial tone for an additional 3 seconds before dialing proceeds. This is most useful when the unit shares the line with another unit. You do not want to dial into another's conversation with touch tones that might possibly be misinterpreted as permission to grant entry or a hang up command tone.

The unit always waits for some dial tone before dialing. This test just helps confirm that the dial tone is real and not some other kind of tone or even voice on the line.
Note: In all cases, if a dial tone is not detected, then the unit will respond with a busy indication to the visitor at the loud speaker.

Roll Over Limit: (Defaults to 6)

Command to set: 2*n Where "n" is the value of ring detects before redialing.

Like a busy signal, this unit can detect and count ring tones. If the roll over limit is exceeded then it is assumed that no one is going to answer because of excessive ringing. So the unit will roll over to the next number to dial, if more than one number exists.

Note: If this value is set to zero "0" then Call Progress is ignored and the unit becomes a single number dialer and the TED option will not work properly.

Security Mode: (Defaults to 0)

Command to set: 6*n Where "n" is the security level.

Level 0: A single touch tone is all that's required to grant access to a visitor.

Level 1: A repeated touch tone is required to grant access to a visitor.

Level 2: A command tone followed by a valid entry code is required to grant access.

It is strongly suggested that Level-1 be employed whenever possible. Unlike the good old days, many folks now carry personal tone generators in the form of Cell Phones. If an access tone is injected into the conversation, the equipment may falsely grant access.

Detail Programming Setup Values Continued

Long ago we could determine the source of the tone by shutting off the microphone and testing if the tone disappeared. If the tone ceased, we knew it was being injected at the microphone. With the advent of speed dialers and short tone burst technology, this has now become an impossible task.

The fix is to require two tones. The first tone is the command tone and is also used to shut off the microphone for a few seconds. The second same tone confirms the first and can only have come from the resident, or security desk, since the microphone has been shut off. If the second tone never arrives then the whole procedure is reset and no false access will thus be granted.

Level-2 exists as a special case where some individuals, such as children, are found to be granting access to undesirable elements. So while the child may answer a call from the entry gate, they cannot grant access without knowing the full multi-digit access code. This code can be up to 8 digits long. Also, level-2 employs the same microphone functions as level-1 to prevent tone hacking at the microphone.

Typical use would be for example: The resident has an entry code of "13579" assigned to them and receives a call. Upon recognition of the visitor, they would dial "0-13579-#", where "0" is the command to allow entry, "13579" is their entry code and the "#" key terminates the response. At this time entry would be granted. False attempts from within the household to guess at the code will result in immediate call termination.

Auto Volume Control: (Defaults to 0)

Command to set: 2#n Where "n" is the volume control value.

This unit employs electronic volume controls. Normal usage requires this value be set to zero "0". With this setting the speaker volume is controlled automatically. It will be lowered in quiet areas and will increase as the local noise increases near the microphone. This mode also allows the unit to operate in full duplex because full duplex operation requires dynamic timely adjustments to changes in the environment for noise and echo cancellation. If a value other than zero "0" is used then that value forces a constant volume level at the speaker. 1 is very soft and 9 is very loud. The value 5 or 6 is about average.

Touch Tone Extension: (Defaults to 00)

Command to set: 5*nn Where "nn" is the touch tone extension code number.

See Page 11 (Ring Counter) for additional detail on the role this value plays. This value is used as an address extension for when several units may share a single phone line. When such a line is called, all units will answer. The caller then sends this 2 digit extension number via touch tones. The unit that has this extension assigned here remains on line while the other units hang up on the received call. This allows you to touch tone program this single unit without the other units getting in the way with their own response tones.

Modem Extension: (Defaults to 99)

Command to set: 5#nn Where "nn" is the modem extension code number.

See Page 11 (Ring Counter) for additional detail on the role this value plays. This value is used as an address extension for when several units may share a single phone line. When such a line is called, all units will answer. The caller then sends this 2 digit extension number via touch tones. The unit that has this extension assigned here remains on line while the other units hang up on the received call. This allows you to program this single unit via Modem without the other units getting in the way with their own Modems.

Call Length Timer: (Defaults to 180)

Command to set: 8nnn Where "nnn" is the call length time limit in seconds.

This value must be 3 digits long. Normal range is 060 to 999 seconds. A call is limited in duration to this value. When this value expires then that call is automatically hung up.

Detail Programming Setup Values Continued

Site ID Code: (Defaults to 1234)

Command to set: 1nnnn Where "nnnn" is the 4 digit site identification code.

This command sets a 4 digit code that can be transmitted via touch tone upon request from a remote caller. To request this ID code the caller sends a "*" tone and waits. This unit will respond by sending this code. The remote caller will need to use a tone decoder to read this number. It is most often used in single number dialers located in a parking garage. This code can be used to locate a unit's location when a pedestrian places an emergency call for help and doesn't know their location or can't speak. Today, this code serves little purpose because this unit can also transmit voiced pre-recorded location information.

Program Access Code: (Defaults to 2468)

Command to set: 3nnnn Where "nnnn" is the 4 digit programming access code.

This command sets a 4 digit code that is used at the keypad, or remotely via touch tone, to place this unit into programming mode. This is a very important number, for without it you will not be able to program your unit except via Modem. To program this unit via keypad this code is entered as "*2468". Since all units will have this code number as the factory default, it is strongly suggested that you change this code soon after initial installation. Anyone with the knowledge of this code can put your unit into programming mode and erase everything with one command. Be absolutely sure to write down the new replacement code or you will lock yourself out from future programming changes. If you lose this code you may call Trigon and we can call the unit and send a special command to restore this code to factory default of 2468.

Operational Enables

Operational Enables-1: (Defaults to 2)

Command to set: 4#n Where "n" is the selection of modes enabled.

Options are:

n=0	Push Button Mode,	No Dial Looping,	No TED
n=1	Handset Mode,	No Dial Looping,	No TED
n=2	Push Button Mode,	Yes Dial Looping,	No TED
n=3	Handset Mode,	Yes Dial Looping,	No TED
n=4	Push Button Mode,	No Dial Looping,	Yes TED
n=5	Handset Mode,	No Dial Looping,	Yes TED
n=6	Push Button Mode,	Yes Dial Looping,	Yes TED
n=7	Handset Mode,	Yes Dial Looping,	Yes TED

Handset Mode:

Select this mode if your unit employs a Handset Hookswitch else use Push Button Mode.

Dialer Looping:

Use "Yes Dial Looping" if you dial from a list of several numbers and want to be able to start again with the first number listed. A "No" to looping disables restarting a phone list and all dialing attempts quit after failing to connect after the last number on the list has been tried.

TED Mode:

You must use the "Yes TED" options if the automated doorman feature is desired. See page 7 for more details about the TED option.

Note: These modes are individually broken down into "Y" or "N" enables when viewed via the display or remotely accessed via a Modem.

Detail Programming Setup Values Continued

Operational Enables-2: (Defaults to 0)

Command to set: 8*n Where "n" is the selection of modes enabled.

Options are:

N=0 MG3 Mode, NO TA3 Mode, NO Anti_Passback
N=1 HF3 Mode, NO TA3 Mode, NO Anti_Passback
N=2 MG3 Mode, YES TA3 Mode, NO Anti_Passback
N=3 HF3 Mode, YES TA3 Mode, NO Anti_Passback
N=4 MG3 Mode, NO TA3 Mode, YES Anti_Passback
N=5 HF3 Mode, NO TA3 Mode, YES Anti_Passback
N=6 MG3 Mode, YES TA3 Mode, YES Anti_Passback
N=7 HF3 Mode, YES TA3 Mode, YES Anti_Passback

MG3 Mode:

This mode forces the unit into a residential dialer operation. A directory browser is enabled if a display and residential names are present. Visitors must push a call button and dial a resident code number to activate this dialer into calling their desired party for entry purposes.

HF3 Mode:

No directory browser is enabled, even when the unit has a display. Pushing the call button or lifting the handset results in a single button dialer operation where the number dialed is taken from List-A. This is still an Entry Control System so the called party can respond with gate control tones as normal. TED operation is also supported in this mode.

TA3 Mode:

This mode is used for Emergency Operations normally. The main difference is that the Primary relay is engaged at the onset of the call and is usually tied to a strobe lamp. The Secondary relay is pulsed for a programmable period and used generally to engage or activate a camera. The Third relay can still be used for entry control if desired.

Note: In TA3 mode the Postal Input becomes a secondary push to call button. Use of this input in TA3 mode causes the unit to autodial from List-B, thus making this unit a dual button auto dialer. If you need a postal button also, then use one of the Ajar inputs combined with a macro command to simulate a postal entry function.

Anti-Passback:

This mode, if enabled, tracks card codes via card reader-1 and card reader-2 inputs. It requires a valid card access be submitted first on reader-1. A second use on reader-1 will result in a tamper hit and not allow access. Several tamper hits will trigger the tamper alarm. To use a card on reader-1 again, it must first be logged out via reader-2. This prevents a card holder from gaining access and then passing the card through a fence to a second party and achieving multiple entries on a single card.

Note: This Anti-Passback feature only works on pooled cards and not residential cards.

Note: These modes are broken down into "Y" or "N" enables when viewed via the display or remotely accessed via a Modem.

Operational Enables-3: (Defaults to 4)

Command to set: 6#n Where "n" is the selection of modes enabled.

n=0 Disable Active Keypad, Enable Keypad Beeps, Tamper Alarm Off
n=1 Enable Active Keypad, Enable Keypad Beeps, Tamper Alarm Off
n=2 Disable Active Keypad, Disable Keypad Beeps, Tamper Alarm Off
n=3 Enable Active Keypad, Disable Keypad Beeps, Tamper Alarm Off
n=4 Disable Active Keypad, Enable Keypad Beeps, Tamper Alarm On
n=5 Enable Active Keypad, Enable Keypad Beeps, Tamper Alarm On
n=6 Disable Active Keypad, Disable Keypad Beeps, Tamper Alarm On
n=7 Enable Active Keypad, Disable Keypad Beeps, Tamper Alarm On

Detail Programming Setup Values Continued

Active Keypad:

When enabled as an active keypad, this option allows transmission of touch tones from the keypad after the initial call has been answered. This allows navigating a PBX or special answering machine. It may also be abused if dial tone is ever restored without a disconnect signal. This may give the visitor the ability to dial any number they wish into what might be an open phone line with dial tone.

Keypad Beeps:

Normally keypad beeps are enabled. This gives a audio feedback of a key down stroke on the keypad. It can be disabled for quiet areas that find it annoying such as a hospital zone or even a front gate in a quiet community. Directory browsing is always quiet.

Tamper Alarm:

Normally enabled to use as a means to dissuade visitors from hacking an entry code at the keypad. When enabled it will disable the unit for a preset time after three failed attempts to discover a useful entry code. The lock out time is set via the Alarm Timer. Note: These enables are broken down into "Y" or "N" values when viewed via the display or remotely accessed via a Modem.

Operational Enables-4: (Defaults to 2)

Command to set: 4n Where "n" is the selection of modes enabled.

n=0 Disable Auto Site Id Message, Disable Entry Message, Non-Muted Site Id Message
n=1 Enable Auto Site Id Message, Disable Entry Message, Non-Muted Site Id Message
n=2 Disable Auto Site Id Message, Enable Entry Message, Non-Muted Site Id Message
n=3 Enable Auto Site Id Message, Enable Entry Message, Non-Muted Site Id Message
n=4 Disable Auto Site Id Message, Disable Entry Message, Muted Site Id Message
n=5 Enable Auto Site Id Message, Disable Entry Message, Muted Site Id Message
n=6 Disable Auto Site Id Message, Enable Entry Message, Muted Site Id Message
n=7 Enable Auto Site Id Message, Enable Entry Message, Muted Site Id Message

Auto Site Id Message:

When enabled causes the unit to transmit all site identification information when the unit has detected this distress call has been answered. This mode is usually found in the one button dialers used in emergency situations such as a parking garage.

Entry Message:

This message is voiced to the visitor when entry has been granted because sometimes the walk through gate or portal may not be obviously or visibly unlocked.

Muted Site Id Message:

This option determines if the person near the unit loud speaker is allowed to hear the Site Identification while it is auto transmitted or has been remotely requested.

Note: These enables are broken down into "Y" or "N" values when viewed via the display or remotely accessed via a Modem.

Viewing System Setup:

Command to Issue: *#0

Displays all setup parameters if a display exists.
Use the "*" key to scroll down the entire list.

Viewing System Configuration:

Command to Issue: *#1

Displays all database parameters if a display exists.
Use the "*" key to scroll down the entire list.

Detail Programming Residences

For this programming section **Enter the Programming Mode** using command sequence **"*2468"**.
Note: For MG3 residential dialers, push the call button first, then the code **"*2468"**.
You will remain in this programming mode until you choose to exit or it times out.
Each command issued restarts the time out timer, which by default is usually 3 minutes.

To display your whole existing residential database use command: **"*#2#"**
To display a specific residents database assignments use command: **"*#2nnnn#"**
Where **nnnn** is the resident code, 1 to 4 digits, of the specific resident in question.
Then:
Use the zero **"0"** key to see more about of this resident.
Use the star **"*"** key to see the next resident.
Use the pound **"#"** key to escape this view mode and return to idle programming mode.

The resident browsing display format is:

```
RESCODE = 123 (Resident Code 123 may be from 1 to 4 digits mixed length)
John Smith (Residents Name)
P1=5551212 (1st Phone Number, 16 digits max, may not be fully viewable on small displays)
P2=5551213 (2nd Phone Number, 16 digits max, may not be fully viewable on small displays)
ENTCODE 1=1234 (1st Entry Code may be 1 to 6 digits mixed length)
ENTCODE 2=12345 (2nd Entry Code may be 1 to 6 digits mixed length)
CRDCODE 1=00001 (1st Card Code, 5 digits fixed length)
CRDCODE 2=00002 (2nd Card Code, 5 digits fixed length)
SITECODE = 255 (Optional Site Code for Cards shown, 3 digits fixed length)
ZONECODE = 00 (Optional Zone Code assigned to Resident, 2 digits fixed length)
END ASSOCIATIONS (End of data associations for this specific Resident)
```

Note: A single resident is subject to the following data limitations:
Resident Code: Mandatory, 1 to 4 digits, as an active record indication.
Resident Name: Optional, 16 text letters maximum.
Resident Phones: Optional, up to 3 per resident, 16 digits maximum per.
Resident Entry Codes: Optional, up to 8 per resident, 6 digits maximum per.
Resident Card Codes: Optional, up to 8 per resident, 5 digits maximum per.
Resident Site Code: Optional, 1 per resident, 3 digits from 000 to 255.
Resident Zone Code: Optional, 1 per resident, 2 digits from 00 to 97.

To display your units specific residential database structure use command: **"*#1"**.

All residents will have a resident code. It can be 1 to 4 digits (mixed) length.

A **NEW** prompting feature has been added using command **"#0#"** while in program mode.
In this mode the display will prompt for a Resident Code and 1 Phone number per resident.
You may use **"*"** to restart that prompt over again and use the **"#"** key to proceed to the next input. Using **"#"** without data entered will exit this special fast loop mode.

Setting and Deleting Phone Numbers:

Assign a Resident a Phone Number using Command **"#0"**:

```
#0 999*5551212# Set/Create resident 999 1st empty phone number as 5551212.
#0 999*1*5551212# Set/Create resident 999 1st phone number as 5551212.
#0 999*2*5551234# Set/Create resident 999 2nd phone number as 5551234.
```

Note: Omitting the phone number defines an erase function.

```
#0 999*# Delete resident 999 1st phone number by default.
#0 999*1*# Delete resident 999 1st phone number specifically.
#0 999*2*# Delete resident 999 2nd phone number specifically.
```

Special Commands for **"#0"**:

```
#0 999*0*555# Change resident code 999 to resident code 555. (new)
#0 999# Delete resident 999 completely from the database.
```

Detail Programming Residences Continued

To **Edit Names** on Units with an Electronic Directory use Command **"#9"**:

Enter: #9# Edit 1st Residents Name for Directory Display.
Enter: #9 123# Edit Resident 123's Name for Directory Display.

See Page-9 for details regarding the Keypad Text Editor.

Setting and Deleting Entry Codes:

Entry Codes can be assigned to a Resident or placed in a generic Entry Code Pool. In this section we will assign Entry Codes to a specific resident.

Entry codes are used at the Keypad for direct access to restricted areas without placing a telephone call. A resident approaches the keypad, may have to push the call button on some units to avoid a directory browser, then enter their code starting with the "#" key. If a resident is assigned 1234 as an entry code, they would enter #1234 and wait for the gate to unlock or open. Note: They can speed up the process by terminating their code such as #1234#. This second # key indicates they are done entering the number and the unit may proceed immediately to doing the database scan for a matching code.

Entry codes are now variable length of 1 to 6 digits.

Assign an Entry Code to a resident using Command **"#1"**:

#1 999**778800# Sets/Creates resident 999 1st empty Entry Code as 778800.
#1 999*1*667788# Sets/Creates resident 999 **1st** Entry Code as 667788.
#1 999*2*556677# Sets/Creates resident 999 **2nd** Entry Code as 556677.

Batch loading a group of entry codes in one command:

#1 999**123*2345*34567*45678*5678*678*89#

In this example 7 variable length entry codes have been assigned to resident 999. They start filling from the 1st empty position for that resident.

If you supply more codes than there is space for then the empties will be filled as far as possible and the extras will be discarded with an error tone.

Deleting an Entry Code from a resident using command **"#2"**:

#2 999# This command deletes **all** Entry Codes for resident 999.
#2 999*1# This command deletes the **1st** Entry Code for resident 999.
#2 999*2# This command deletes the **2nd** Entry Code for resident 999.

Setting and Deleting Card Codes:

Card Codes can be assigned to a Resident or placed in a generic Card Code Pool.

In this section we will assign Card Codes to a specific resident.

Card codes are always 5 digits long and in the range of 00000 to 65535. They can be programmed into the residential database via the keypad or loaded via the card reader on channel 1's input port.

Additionally, cards can have a 3 digit prefix called a Site Code. Range is 000 to 255.

To decide if your unit supports Site Codes use the view command ***#1**.

Look for "RES SITE=Y" or "RES SITE=N". Y=yes and N=no of course.

If the answer is "No" then there is nothing to concern yourself with. If the answer is "Yes" then there are some simple rules to become familiar with.

Detail Programming Residences Continued

As always, you must be in programming mode to issue programming commands.

Site Codes, if enabled, can be left blank or defaulted to "000". In these cases they are completely ignored. If Site Codes are enabled and use the range 001 to 255 then they are active extensions to the Cards or Fobs involved for that resident. In this latter case all cards assigned that resident must have the same Site Code, which must also match their assigned Site Code in the database for entry to be granted via a resident's cards.

Assigning a Site Code via the keypad uses this command:

```
#1 *999*000#      Set resident 999 Site Code as 000 to disable it's function.
```

If a Site Code is assigned to a resident, it can only be changed locally via this command.

Assigning Card Codes via the keypad using command **#1**:

```
#1 *999**34567#   Sets/Creates resident 999 1st empty Card Code as 34567.
#1 *999*1*34567#  Sets/Creates resident 999 1st Card Code as 34567.
#1 *999*2*34568#  Sets/Creates resident 999 2nd Card Code as 34568.
```

Batch loading a group of card codes in one command:

```
#1 *999**12345*23456*34567*45678#
```

In this example four 5-digit card codes have been assigned to resident 999. They start filling from the 1st empty position for that resident. If you supply more codes than there is space for, empties will be filled and extras will be discarded with an error tone.

Deleting a Resident Card Code using command **"#2"**:

```
#2 *999#          This command deletes all Card Codes for resident 999.
#2 *999*1#        This command deletes the 1st Card Code for resident 999.
#2 *999*2#        This command deletes the 2nd Card Code for resident 999.
```

Batch Loading Card Codes via the reader:

Select one or more cards to be assigned to a given resident then enter command:

```
#1 *999**#        This command adds cards from the reader to resident 999.
```

To exit this command hit any key on the keypad.

Note: If you fill all empty positions the batch loader will exit with a long error tone.
Note: If Site Code is enabled and empty, it will be set from the Site Code derived from the first card loaded. Thus, all cards loaded this way must have the same Site Code. If your cards have mixed Site Codes then first use command:

```
#1 *999*000#      This command sets resident 999 site code to 000 for match all status.
```

Batch Deleting Cards via the reader: (Exit via "#" key on the keypad.)

```
#2 ##            This command deletes all residential cards that match reader 1 input.
This command only compares a residents 5 digit code and ignores all Site Codes.
```

```
#2 ##*#         This command deletes all residential cards that match reader 1 input.
This command requires the residents 5 digit code and Site Code to match the reader.
```

Note: Site Codes are not removed nor altered with batch deletes.
Note: Batch deletes are applied to the whole residential database.
Note: A speaker chirp indicates a match and delete was performed.

Detail Programming Residences Continued

As always, you must be in programming mode to issue programming commands.

Residential Time Zone Codes:

Each resident may be assigned a Time Zone restriction if this zoning option is available.

To decide if your unit supports Resident Zone Codes use the view command ***#1**.
Look for "RES ZONE=Y" or "RES ZONE=N". Y=yes and N=no of course.

If the answer is "No" then there is nothing to concern yourself with. If the answer is "Yes" then there are some simple rules to become familiar with.

If the Zone is left blank or set to the value "00", then no time zone rules are applied to this resident. If their zone has a non-zero value assigned then time zone restrictions are applied to every aspect of their ability to grant or gain entry.

Setting or Changing Residential Time Zone Codes:

Use command:

#1 999*25# This assigns resident 999 as Time Zone 25.
#1 999*00# This assigns resident 999 as Time Zone 00. (no time zone restrictions)

To learn more about Time Zones, review the section on **Detail Programming Time Zones**.

Detail Programming System Clock

This unit employs an accurate digital clock that includes Year, Month, Date and Day of the week. As per ISO-8601 standards, the 1st day of the week is Monday. This plays a key roll if you have time zone restrictions enabled, as one can then restrict access based on the day of the week. The clock will continue accurate time keeping without system power for about 4 days. After that, the clock will need to be set. This unit doesn't use clock batteries as they eventually fail someday and are expensive. The clock itself employs 24 hour military standard time keeping. This eliminates confusion regarding AM and PM settings.

The day begins at midnight at 00:00 (Hours:Minutes) rather than 12:00 AM.
The day ends before midnight at 23:59 (Hours:Minutes) rather than 11:59 PM.

00:00 is midnight (12:00 AM)
02:00 is two o'clock (2:00 AM)
12:00 is noon (12:00 PM)
18:00 is six o'clock (6:00 PM)

View the Clock via unit display by going into programming mode and use command:

*#3 Display current time as Year/Month/Date, Hours:Minutes, Day-week, Seconds

Set the Clock using this command while in programming mode:

#3 YY*MM*DD*HH*mm*D# As Year/Month/Date, Hours:minutes, Day-week, Terminate command.

#3 10*01*02*23*30*1# As Year=10, Month=Jan, Date=2nd, Hours=23, Minutes=30, Day=Monday

Leap year is automatically adjusted for and Daylight Savings time is computed and automatically adjusted for if Time Zones are enabled. Time Zones 98 and 99 are dedicated to Daylight Savings Time. This DST is calculated when the year changes. The DST rules observed are based on the previous years rules deduced from the settings in the Time Zone database. If the rules change then set Time Zones 98 and 99 to match the new rules and the new rules will be applied automatically from then on. See Time Zoning for greater details.

Detail Programming Pooled Entry Codes

As always, you must be in programming mode to issue programming commands.

Entry codes are keyed into the unit via the keypad for the purpose of gaining entry to a secured area. Entry codes can be assigned to a resident or dropped into a general pool.

Besides Entry Codes that are assigned to residents, this unit also supports Pooled Entry Codes. This feature allows greater economy of memory usage. For example, if only one resident needs 8 entry codes, or card codes for that matter, then all the residents must have the same number of allotted code spaces. This is very wasteful if everyone else only needs one or two entry codes per resident.

There are additional advantages to using Pooled Codes in that many new features can be applied to Pools. For example, you can put the same code in the pool 10 times and set the rules that each use will delete just one matching code. This sets up the ability to issue an entry code to a visitor that can only be used 10 times total.

Auto Erase after use can only be applied to Pooled Codes. Also note that the residential database is searched before the pooled database when a code is entered at the keypad.

Pooled Entry codes can also be Time Zoned if that option is enabled. Review this units enables and Pooled Code capacity using the following review command while in programming mode.

View System Configuration using command:

*#1 View System Configuration.

Scan down using the "*" key until you see Pool Codes = nnn. Where nnn is the number of Pooled Entry codes available. Also check for "Code Zones=Y" or "Code Zones=N". Obviously Y=yes and N=no. If "No" then you don't have Pooled Time Zoning. If "Yes" then pay attention to commands that include setting Time Zone Restrictions to Entry Codes.

Entry Codes can be from 1 to 6 digits long. Zone codes are always 2 digits long. The Zone Code "00" means no time zone restrictions are applied to this Entry Code.

View Current Pooled Entry Codes using command ***#4**:

*#4# Display all entry codes in the pooled database from the first one found.
*#4 1234# Display all entry codes in the pooled database starting with 1234.

Use "*" to progress to the next one until dual ack-tones indicate no more to view.
Use "#" to exit this viewing procedure early.

Add or Change a Pooled Entry Code using command **1#**:

1# 1234# Adds 1234 to Pooled Entry Code database. Zone defaults to "00" if enabled.
1# 9999*22# Adds 9999 to Pooled Entry Code database including the time zone set as 22.

Note: From the keypad, or touch tones, duplicate codes can not be installed. However, the following command can be used to change an existing pooled entry code time zone setting:

1# 9999*22# Sets pre-existing pooled entry code 9999 to time zone 22.

To install multiple duplicated codes you must do so via modem or direct PC connection.

Delete a Pooled Entry Code using command **1***:

1* 1234# Deletes 1234 from entire pooled entry code database. Zone code is also removed.

Detail Programming Pooled Card Codes

As always, you must be in programming mode to issue programming commands.

Card Codes (or Fobs) can be assigned to a resident or dropped into a general pool. This unit supports dual wiegand 26-bit compatible inputs for Card Readers or Fob Receivers.

Besides Card Codes that are assigned to residents, this unit also supports Pooled Card Codes. This feature allows greater economy of memory usage. For example, if only one resident needs 8 card codes then all the residents must have the same number of allotted code spaces. This is very wasteful if everyone else only needs one card per resident.

There are additional advantages to using pooled codes in that many new features can be applied to pools. For example, you can put the same code in the pool 10 times and set the rules that each use will delete just one matching code. This sets up the ability to issue a card code to a visitor that can only be used 10 times total.

Auto Erase after use can only be applied to Pooled Codes. Also note that the residential database is searched before the pooled card code database when a code is input via reader.

Pooled Card Codes can also be Site Coded and Time Zoned if those options are enabled. Review this units enables and pooled code capacity using the following review command:

View System Configuration using command:

```
*#1      View System Configuration.
```

Scan down using the "*" key until you see Pool Cards = nnn. Where nnn is the number of Pooled Card Codes available. Check for "Card Sites=Y" or "Card Sites=N" and check for "Card Zones=Y" or "Card Zones=N". Obviously Y=yes and N=no. Keep these options in mind when choosing the best commands while placing codes into the Pooled Cards database.

Card Codes are always 5 digits long, Site Codes are always 3 digits long, and Zone Codes are always 2 digits long. Site codes are simply an extension to the 5-digit primary code number. Setting a Site Code to "000" means ignore this site code. The Zone Code "00" means no time zone restrictions are applied to this card.

View Current Pooled Card Codes using command ***#5**:

```
*#5#      Display all card codes in the pooled database from the first one found.  
*#5 12345# Display all card codes in the pooled database starting with 12345.
```

Use "*" to progress to the next one until dual ack-tones indicate no more to view.
Use "#" to exit this viewing procedure early.

Add or Change a Pooled Card Code using command **3#**:

```
3# 55555#      Adds card 55555 with site default as 000 and zone default as 00.  
3# 111*55555# Adds card 55555 with site as 111 and zone default as 00.  
3# 55555*22#   Adds card 55555 with site default as 000 and zone as 22.  
3# 111*55555*22# Adds card 55555 with site as 111 and zone as 22.
```

Note: From the keypad, or touch tones, duplicate codes can not be installed. However, the following commands can be used to **change an existing pooled card code** time zone setting:

```
3# 55555*33#   Change existing card 55555 zone code to 33.  
3# 111*55555*33# Change existing card 55555 with site as 111 to zone 33.
```

Note: You can not change an assigned Site Code because Site Codes are part of the identity code. To change the Site Code, first delete the original and re-install the changed code.

To install multiple duplicate codes you must do so via Modem or direct PC connection.

Detail Programming Pooled Card Codes Continued

Batch Loading Cards into Pooled Card Database using command **3#**:

3## Install cards via reader with Site defaulted as 000 and Zone default as 00.
3**# Install cards via reader with Site from the reader and Zone default as 00.
3*22# Install cards via reader with Site defaulted to 000 and set Zone as 22.
3**22# Install cards via reader with Site from the reader and set Zone as 22.

Note: If your unit doesn't have Site Codes or Zone Codes enabled, then the extra data is simply discarded.

Exit Batch Card Mode via "#" key on the keypad.

Delete a Pooled Card Code using command **3***:

3* 5555# Deletes 5555 completely from pooled card codes and site codes don't matter.
3* 111*5555# Deletes 5555 completely from pooled card codes with a site code set as 111.

Delete Card Codes in Batch Mode using command **3***:

3## Deletes all matching 5 digit codes via reader while ignoring the site codes.
3**# Deletes all matching 5 digit codes via reader with matching site codes.

Exit Batch Delete Card Mode via "#" key on the keypad.

Note: If your unit has no keypad then you may call the unit via cell phone and do all the batch mode command functions via cell phone touch tones while using the local reader.

Detail Programming Phone Lists

This unit supports two phone lists called List-A and List-B. If your unit is optioned to be a one number dialer then the numbers to dial are derived from List-A.

When a visitor pushes the call button, the unit pulls the first number from List-A and dials it. There can be up to 10 Numbers in the order of 1,2,3,4,5,6,7,8,9,0. Note: zero "0" is actually the tenth number or last number on the list. There can be no gaps between numbers listed. A blank gap is defined as the end of the phone number list.

If a list has several phone numbers then you must enable Call Progress in the Dialer Modes to redial properly. The 1st number is dialed, and if busy or extended ringing is detected, it proceeds to try the 2nd number etc. If all attempts fail and you wish to loop back to the 1st number again, then enable Dial Looping. The Call Limit Timer stops this from looping forever. Voice detection is by non-symmetrical sounds on the Phone line. This stops redial attempts and proceeds to full answered mode. Also note that the microphone is shut off during redial attempts in order for the unit to hear the signals on the Phone line. Thus, the answering party should answer with something more than a simple "Hello".

If no Phone Numbers are installed then the unit defaults to simple Ring-Down mode.

Adding a Phone Number to List-A using command **2n**.

21 5552222# Sets Number-1 to 5552222. The "#" terminates this command.
23 5552222# Sets Number-3 to 5552222. The "#" terminates this command.
21 # This command clears the phone number in position-1.

Viewing a Phone Number in List-A using command ***n**.

*1 This command displays/transmits the number in position-1.
*2 This command displays/transmits the number in position-2.

Detail Programming Phone Lists Continued

List-B is a special list that is used in the TA3 mode. TA3 stands for Tel-Alarm-3. This mode is mostly used for two button emergency and information dialers. In this mode the Postal Switch input is configured to be a secondary Hook Switch. Activating this 2nd Hook Switch forces the unit to dial like the normal hook switch, except the phone numbers are drawn from List-B.

In order to program numbers into this list your unit must be in TA3 Mode. See **Operational Enables-2** on page 15 for details on enabling this mode.

Adding a Phone Number to List-B using command **7n**.

```
71 5552222#      Sets Number-1 to 5552222. The "#" terminates this command.
73 5552222#      Sets Number-3 to 5552222. The "#" terminates this command.
71 #             This command clears the phone number in position-1.
```

Viewing a Phone Number in List-B using command ****n**.

```
**1             This command displays/transmits the number in position-1.
**2             This command displays/transmits the number in position-2.
```

Note: To use Macro Commands for dialing from List-B, you must program numbers into List-B. This may require you to set the TA3 mode active just long enough to place numbers there, then restore the unit to normal with TA3 mode disabled again. This method only applies to keypad and tone programming. Programming via a PC places data without any regard to the various active modes.

Detail Programming Tone Functions

This unit has a new feature that allows you to decide what touch tones are used to perform different functions. For example, all our previous units granted access using tone zero "0" issued from the resident or security desk when they received a call from the unit. This is now done via a table with functions assigned various touch tones as follows:

Unit Dials Resident:

Function:	Tone:
CYCLE-1 & HANGUP 0=>9:	0
SET SWITCH-1 0=>9:	1
SET SWITCH-2 0=>9:	2
SET SWITCH-3 0=>9:	3
ENABLE VOICE 0=>9:	4
ENGAGE RELAY 2 0=>9:	5
ENGAGE RELAY 3 0=>9:	6
FORCED HANGUP 0=>9:	7
CYCLE-2 & HANGUP 0=>9:	8
CYCLE-3 & HANGUP 0=>9:	9
* FOR SITE ID MESSAGE	
# FOR SITE ID OR REPLAY TED MESSAGE	

Unit is Called by the Resident:

Function:	Tone:
CYCLE-1 & HANGUP 0=>9:	0
SET SWITCH-1 0=>9:	1
SET SWITCH-2 0=>9:	2
SET SWITCH-3 0=>9:	3
LATCH-1 TOGGLE 0=>9:	4 (1 BEEP=ON, 2 BEEPS=OFF)
LATCH-2 TOGGLE 0=>9:	5 (1 BEEP=ON, 2 BEEPS=OFF)
LATCH-3 TOGGLE 0=>9:	6 (1 BEEP=ON, 2 BEEPS=OFF)
FORCED HANGUP 0=>9:	7
CYCLE-2 & HANGUP 0=>9:	8
CYCLE-3 & HANGUP 0=>9:	9
*NNNN => FOR ENTERING PROGRAMMING MODE NNNN	
*(PAUSE) => FOR SITE ID	
# MICROPHONE AND SPEAKER SET ACTIVE	

These are the Factory Default settings unless specified otherwise on the purchase order.

"Cycle-n and hangup" refers to doing a gate access granted cycle on relay 1,2, or 3.
"Set Switch-n" refers to Macro Usage where the Switch can be defined to other functions.
"Engage Relay" simply sets the relay active until the end of the call.
"Enable Voice" is for modes such as "TED" that usually maintain silence at the speaker.
"Latch-n" Toggles Relay (n=1,2,3) into latch mode and holds forever until toggled off.
The "*" and "#" tones usually control audio/message playing with the exception of when a call is placed to the unit, the "*2468" is used for placing the unit into program mode.

Note: The unit has slightly different behaviors dependent on if the unit was called or did the dialing itself (dialed out status).

Detail Programming Tone Functions Continued

You can assign a different tone control scheme to these functions. You must also remember that the functions are processed in the order shown. This means that if you use the tone zero "0" to Cycle Gate-1, then tone zero "0" can't be used for any function beyond that point. This is actually rather useful because you can then define all other functions as tone zero "0" and the program will never get to process those functions. This effectively masks those functions that you want disabled. This did however create a minor issue that was resolved by processing the "Forced Hangup" first.

Put simply: Define a tone for "Forced Hangup" such as the default seven "7" tone and use it for every function you want disabled.

Why disable a function? Some folks have Caller ID and may see the source phone number of the line the unit is attached to. They may call the unit. They may latch a gate open. So put a Seven everywhere that you want a function disabled. A better option is to specify that the line attached to the unit has "Caller Id Blocked" set active for that line on all calls placed by the unit. That way the owners or managers may still call the unit, because they know the private phone number, and latch or unlatch the gate, or do special functions without the worry of having residents fooling around with their gate controls, etc.

As always, you must be in programming mode to issue programming commands.

Assign a Function to a Tone using command **9**: (out going calls placed from the unit)

9ft Set function f (0 to 9) to tone t (0 to 9) for out going calls from unit.

Ie: 905 Sets function "0" (Cycle Gate-1 & Hangup) to Tone 5.

Assign a Function to a Tone using command **9#**: (incoming calls answered by the unit)

9#ft Set function f (0 to 9) to tone t (0 to 9) for calls answered by the unit.

Ie: 9#05 Sets function "0" (Cycle Gate-1 & Hangup) to Tone 5.

Detail Programming Phone Numbers

See Programming Residences or Programming Phone lists for specific commands related to programming those areas of the databases.

This page describes rules about the actual phone number sequences themselves.

They are always allowed to be a full 16 digits long.

Time delays may be embedded in a phone number sequence. Embedded "*" tones are not dialed but rather force a 2.5 second delay when each is encountered in a phone number sequence.

For example the phone number sequence 9*5551212 may be used if "9" is required to obtain an outside line for a PBX application.

Note: Secondary Dial tone is not tested for, in outside line requests and dial tone must be present within 2.5 seconds after dialing the "9" else the dialing sequence will fail. You may however include embedded extra "*" command delays as needed.

You may not embed a "#" tone in a phone number sequence as these are treated as a termination control or end of phone number indicator.

Please contact Trigon if any issues arise because of this dated dialing technique.

Detail Programming Greeting Screens

If a Display is present and the Greeting Screens are enabled then the following applies.

The greeting screen or screens supply additional information to a visitor beyond the basic instruction screen, which is preset to factory defaulted text. You may supply extra instructions, rental information or simple greetings to visitors.

Note: Macro Command 90 used in Event-1 will disable the normal instruction screen.

These screens can be disabled by clearing all displayable text. The time duration of the screen is calculated as 2 seconds plus 1 second per displayable line, approximately.

From programming mode you may view these screens via command ***#***.

Use the **"*** command to view the 2nd screen if enabled.

To Edit Greeting Screen 1 using command **#6**:

#6 Edit Greeting screen 1.

To Edit Greeting Screen 2 using command **#7**:

#7 Edit Greeting screen 2.

To Exit this Text Editor simply hold down the Star Key **"*** for about 3 seconds.

Refer to Page 9 on the subject of Basic Text Editing for additional details.

Detail Programming Prompt Lines

Assuming your unit supports a display and the Prompt Lines Option was enabled and Macro Commands are also properly programmed, then the following applies.

Prompt lines are only usable via Macro Commands. These are commands that enable you to send special prompts to your display at various points in a customized procedure. You can setup a Macro Command to display a custom message when needed. For example, a resident can send a defined tone that issues a special display prompt like: "Go to 2nd Elevator", to reach their floor, etc.

Prompt lines are numbered 1 to 8 and where they appear on the display screen depends on the number of lines your display supports.

	8-line displays	4-line displays	2-line displays
Prompt line 1:	-- Line 1 -----	Line 1 -----	Line 1
Prompt line 2:	-- Line 2 -----	Line 2 -----	Line 2
Prompt line 3:	-- Line 3 -----	Line 3 -----	Line 1
Prompt line 4:	-- Line 4 -----	Line 4 -----	Line 2
Prompt line 5:	-- Line 5 -----	Line 1 -----	Line 1
Prompt line 6:	-- Line 6 -----	Line 2 -----	Line 2
Prompt line 7:	-- Line 7 -----	Line 3 -----	Line 1
Prompt line 8:	-- Line 8 -----	Line 4 -----	Line 2

To Edit Prompt Lines using command **#8**:

#8 Edit Prompt Lines. The display provides line numbering details.

To Exit this Prompt Editor simply hold down the Star Key **"*** for about 3 seconds.

Refer to Page 9 on the subject of **Basic Text Editing** for further details.

Note: You should issue a Macro Command to clear the display before sending prompts. Refer to Page 31 on the subject of **Macro Commands** for further details.

Detail Programming Time Zones

This section applies only if your unit supports time zone functions. While Trigon has produced many products that have incorporated simple time zone functions, this product represents a full embracement of Time Zone Fuctionality.

Basically, Time Zones define a period of time that declares a **Window** of opportunity. A time zone has a specific start time and ending time. This time however may also include calender timing as well as clock timing. For example: From Monday to Friday or January to November.

This unit supports 99 time zones of which two are dedicated to **Daylight Savings Time**. These are zones 98 and 99, for **DST** of spring and fall respectively.

The various zones are broken down into 3 groups as follows:

Zones 1 to 24 are not zones but rather a list of other time zones for mixing purposes.
Zones 25 to 49 are true time zones that define an Allow Window.
Zones 50 to 97 are true time zones that define a Deny Window.

The concept of **Window** means that when you open the window, air (or people) passes through until you close the window.

Their are nine "9" elements to each time zone, each element is composed of two "2" digits.

The nine "9" elements of a single time zone are:

1 2 3 4 5 6 7 8 9.....9
From Month:Date:Hour:Minute, To Month:Date:Hour:Minute, For Day to Day.

Example: From 01/01/00/00, To 12/31/23/59, For 1-7

In this example, the time zone covers the Start of Jan/1st to End of Dec/31st, Monday to Sunday. Or in other words, the full year with no gaps. A person assigned this time zone could enter and exit anytime they wish because this window would always be open.

Day to Day is defined as 1-7 means 1 to 7 with 1 being Monday and 7 being Sunday.

A simple change from 1-7 to 1-5 means full daily access except on Saturday and Sunday.

If you leave 17 as 17 and only change the From-Time and the To-Time, then you could define a Clock window such as 07:00 to 15:30 as defining a window from 7:00 AM to 3:30 PM for typical working hours. Now change the 1-7 to a 1-5 and we have a typical work week as:

01/01-07:00 to 12/31-15:30 for 1-5.

Notice in this window the date doesn't matter. It's good all year and permits entry as: From 7:00 AM, To 3:30 PM only, Mondays to Fridays only, all year.

So if Allow Windows are this simple then why include the Date Functions? Glad you asked.

This brings us to the Deny Windows. When one of these windows is active, they Deny Entry. They are mostly used for Holidays. For example imagine a Deny Window as Follows:

From 12/25-00:00 to 12/25-23:59 1-7. Did you recognize the date as Dec-25? Given the clock part of this zone we can see that the deny window covers the whole day of Christmas. The Day to Day is 1-7 so it becomes a don't care what day of the week this date falls on.

So, hopefully, you have a concept now of what Allow-Windows and Deny-Windows can do. So to wrap this description up, we now come to the lists defined as zones 01 to 24.

For a work place, we may wish to define a specific worker and a zone to apply to him.

Detail Programming Time Zones Continued

So One Allow Window can be used to cover the whole work week. Then we need a group of Deny Windows to declare all the Holidays when we can't allow this worker to gain entry. So we define perhaps 7 Holidays as deny Windows. Now.. how do we mix them together to create a single specific zone that applies to this worker? You Gussed it! The Zone Lists!

In the special case of Zones-01 to Zones-24, the 9 elements are **NOT** date/time values. Instead they are individual zones you have pre-defined in the allow and deny sections.

Since we have one Allow Window and 7 Deny Windows, we can put them all into a single time zone of, for example, Zone-10. Thus, any person who is zoned for the value of 10 has all those zones defined applied to their personal ability to enter a restricted area.

If you need more than 9 zones in a list then use one of them to link to another list. This method allows you make extended lists. Just be careful when you do this as the program is designed to detect the use of the same zone more than once in a list. For example, imagine a zone-10 that references zone-10 within itself. The poor program could go nuts trying to resolve this self repetitive definition, especially since there are no special limits to how many lists can be linked together. For this reason one simple but very important rule is applied: **No list can contain a reference to ANY zone more than once.** If this one rule is violated then the program will default this zone to a denial status until you fix it.

Ok, by now you should realize this zoning definition method is as simple as you want it or as complex as you may need it. You can define a set of holidays once and tie them together in a single list. Then you can define several work shifts for several groups of people as separate lists with just one mention of the holiday denial list in each. That's Powerful!

You may have noticed that an Allow Window can be restricted to behave like a Deny Window, or vice a versa. Ok.. fair observation. The difference is that an allow window assumes denial unless an allow window is open. The deny window assumes an allow unless one deny window forbids it. In a mixed list of many allow windows and deny windows you only need one allow to be true and no denys to be true to permit entry.

Another feature should be mentioned. That is Zones 22,23 and 24 can be processed to trip internal program switches and events. For example, using a Macro Command, you could force the unit to automatically open and close the gate at specific times, to say permit free travel during normal working hours and access control only after hours, using zoning only.

Also, one more thing: "Time Zone-00". This value indicates **No Time Zoning**. So if the value "00" is ever found in a linked list, the program stops time analysis and is regarded as an Allow Function. Indirect zone "00" would give a person un-restricted access at all times.

To View the Time Zone Database use command *#7.

*#7 # Begins the viewing at zone 01.
*#7 98# Begins the viewing at zone 98. Try this to see the DST settings for this year.

Use the "*" key to browse through next zones and the "#" key to exit this browsing.

To Set a Time Zone using command #4:

#4 25*01*01*00*00*12*31*23*59*17# Sets a no-restriction Allow Zone-25 as follows:

Sets Zone 25, using From 01/01-00:00, To 12/31-23:59, For days = 1-7, termination.

#4 01*25*26*27# This command sets zone List-01 to include zones 25,26 and 27.

To Clear a Time Zone using command #4: (Empty zones have no effect and are ignored)

#4 22# This command clears the whole time zone-22 definitions.

Detail Programming Code Ranges

Code Ranges is a simple table that applies a special function to a range of codes.

Normally, a code is used to Grant Entry to a restricted area. This table allows you to map the function of granting access via relay 1 to another relay for example. It can also be used to map a range of codes to set an internal system Switch or activate a special event to be processed via a Macro Command.

A Range value uses the format 0000-9999. In this case any code in the range of 0000 to 9999 will qualify. Note: Code 123 or code 12345 would not qualify because there must also be a match for the exact number of digits used. Thus 1234 would qualify.

Note: The reference to switches in the following are program switches internal to the unit. Macro commands can then be used to create a unique procedure if one of these codes are found to qualify.

Note: The first value must always be less or equal to the second value to be a range and the range defined includes the starting and ending values.

To Set a Code Range Function using command **4*n**:

4*0 12345*56789#	Set Entry Code Range 12345-56789 to Access Cycle Relay 2.
4*1 1234*5678#	Set Resident Code Range 1234-6789 to Set Switch 2.
4*2 123456*567890#	Set Entry Code Range 123456-567890 to Set Switch 3.
4*3 00000*65535#	Set Reader 1 Card Code Range 00000-65535 to Cycle Relay 2.
4*4 00000*65535#	Set Reader 1 Card Code Range 00000-65535 to Cycle Relay 3.
4*5 00000*65535#	Set Reader 1 Card Code Range 00000-65535 to Set Switch 3.
4*6 00000*65535#	Set Reader 2 Card Code Range 00000-65535 to Cycle Relay 1.
4*7 00000*65535#	Set Reader 2 Card Code Range 00000-65535 to Cycle Relay 3.
4*8 00000*65535#	Set Reader 2 Card Code Range 00000-65535 to Set Switch 3.
4*9 12345*56789#	Set Entry Code Range 12345-56789 to Auto Erase Code after use.
4*# 00000*65535#	Set Card Code Range 00000-65535 to Auto Erase Code after use.
4** 00000*65535#	Set Reader 1 Card Code Range 00000-65535 to Anti_Passback.

To Disable a Code Range Function using command **4*n**.

4*n#	Disables range n functions. "n" = 0 to 9, * or # as samples shown below:
4*9#	Disables Auto Erase Entry Codes function.
4*##	Disables Auto Erase Card Codes function.
4**#	Disables Anti-Passback function.

To View a Set Code Range using command ***#6**.

#6 Displays all active ranges. Use "" key to scroll to next one if needed.

Anti-Passback will normally be applied to all Cards input on reader channel 1. The Range code 9 above applies a restricted definition to a range of card codes that anti-passback is to be applied to. Cards outside this range will not have anti-pass back applied.

Note: The Anti-passback feature must be enabled in the setup section to use Anti-Passback.

The Auto Erase ranges are only applied to Pooled Entry Codes and Pooled Card Codes. In practice they only erase one instant of a code. This means that multiple duplicatons can be put in a pool and each single copy is erased on use. This permits you to issue a limited pass card good for say 5 uses. Duplicate codes can only be installed in a pool via the Modem or direct PC connection.

Detail Programming Voice Recordings

Trigon introduced a Voiced Message Response many years ago. This product has improved on many aspects of the original. The message may be recorded locally if the unit has a keypad or can be recorded from off site via a phoneline connection. The unit is sold with most messages pre-recorded using a professional voice announcer. You may choose to keep these pre-recorded messages or replace some of them with your own announcements. The voice recorder and play back hardware is broken into 8 messages of 14 seconds maximum each.

In normal use each message serves a specific purpose as listed below. It's your choice to use these messages as designed or customize their use to your own application.

Here are the eight "8" message slots and the normal applications assigned those slots.

Note: If you're not using the TED feature, then all positions marked TED are open and available for your personal redefinition and usage.

Slot-1: Visitor greeting and request for Voiced Personal ID to be recorded by **TED**.

Slot-2: General announcement to stand-by while the dialer places a call.

Slot-3: General announcement that entry access can not be currently granted.

Slot-4: Message to resident that a visitor is waiting for access approval by **TED**.

Slot-5: General announcement that entry access has been granted.

Slot-6: Site identification message played on resident/security request.

Slot-7: No assigned purpose.

Slot-8: Reserved for recording visitor messages by **TED**.

As always, you must be in programming mode to issue programming commands.

Play the Recorded Message using command **0n**.

0n Plays the message in slot-n where "n" = 1 to 8.

Erase the Recorded Message using command **0*n**.

0*n Erase the message in slot-n where "n" = 1 to 8.

Record New Message using command **0#n**.

0#n Records the message to slot-n where "n" = 1 to 8.

Note: The message time length is stored for playback reasons. A Message can not exceed 14 seconds. The unit will automatically stop recording after 14 seconds.

Recording from the Keypad via the local microphone:

Recording begins when you depress the "n" key (slot number selection).

Recording stops when you release the "n" key.

The message instantly plays back for your approval.

Recording Remotely via the Phoneline:

Recording begins when you release the "n" key touch tone (slot number selection).

Recording stops when you send any touch tone key. (the stop tone is not recorded)

The message instantly plays back for your approval.

Detail Programming Macro Commands

This unit may support user installed Macro Commands. These commands have been made available to assist in customizing your unit to your special needs. The program in this unit is broken into functional modules. Each module plays it's role with a starting point and ending point. At the end of a modules function an "End Event" is noted. This normally activates the next module in sequence. This series of linked module functions represents a full procedure stemming from whatever started it to completion of that task.

For example:

1. Card reader input from visitor is detected and decoded.
2. Validate card number and apply any rules or restrictions.
3. Cycle relay to open gate for visitor.
4. Reset back to idle.

These four steps have three event gaps between the steps where you can insert extra functions via the Macro Commands. In total there are 23 event gaps between modules that are made available to Macro Command alterations. You may choose to simply insert a few extra steps in a gap or completely divert the normal sequence flow to a new one of your choosing. These gaps are represented in a table format as events that have taken place.

This table has room for 10 additional steps to be executed for each event listed. These steps are the Macro Commands themselves. They are simply 2 digit numbers with the number "00" that means do nothing special or simply continue as normal. We have defined 91 such Macro commands from "00" to "90". This has left room for 9 more commands to be expanded on, based on feedback from users of desirable new macro commands to be added. Those would be added as commands "91" to "99" someday. So if you see a useful command you would like added, please contact Trigon and suggest as much. Your request will be evaluated and implemented on all future releases if deemed universally useful.

The following are the normal events you have to work with:

- Event-1: All tasks completed, unit is Reset to Idle. (also occurs at power-up)
- Event-2: Hook Switch Activated.
- Event-3: Postal Switch Activated.
- Event-4: Ajar-1 Input Activated.
- Event-5: Ajar-2 Input Activated.
- Event-6: Entry Code Validated.
- Event-7: Card Code via Reader-1 Validated.
- Event-8: Card Code via Reader-2 Validated.
- Event-9: Access Granted via Touch Tone.
- Event-10: Call is Dropped Signal Detected.
- Event-11: Busy Signal Detected.
- Event-12: Ring Count Limit Exceeded.
- Event-13: Voiced Answer Detected.
- Event-14: Call Limit Timeout Exceeded.
- Event-15: Tamper Fault Detected.
- Event-16: Entry Code Invalid.
- Event-17: Card Code Invalid.
- Event-18: Time Zone 22 Window Opened.
- Event-19: Time Zone 23 Window Opened.
- Event-20: Time Zone 24 Window Opened.
- Event-21: Time Zone 22 Window Closed.
- Event-22: Time Zone 23 Window Closed.
- Event-23: Time Zone 24 Window Closed.
- Event-24: Special Service-1.
- Event-25: Special Service-2.
- Event-26: Special Service-3.

Special Service 1,2,3 are not actual gapped events. They are special functions that are serviced about 2000 times per second at all times that the power is applied.

Detail Programming Macro Commands Continued

The macro commands are not designed to be fool proof as no computer language is truly fool proof. You might issue a macro command that has a strange effect. For example; you might request a command to clear the display and install it as a condition of a time zone. When the time zone becomes valid, the display could become useless, as it is continuously cleared until the time zone ends. This could be difficult to fix as you would be working blind without the display. This is a form of programming and as such can be a bit tricky to obtain the desired results. Trigon will always be happy to help by answering questions and perhaps making suggestions to assist your needs if the occasion arises.

The following are the current Macro Commands you have to work with:

00= Resume Event 01= Discontinue Event 02= Pause on Timer 03= Pause on Playback 04= Clear Timer 05= Set Timer +2 Seconds 06= Set Timer +30 Seconds 07= Force Restart 08= Clear Display 09= Latch Relay 1 10= Latch Relay 2 11= Latch Relay 3 12= Unlatch Relay 1 13= Unlatch Relay 2 14= Unlatch Relay 3 15= Cycle Relay 1 16= Cycle Relay 2 17= Cycle Relay 3 18= Set Switch 1 19= Set Switch 2 20= Set Switch 3 21= Clear Switch 1 22= Clear Switch 2 23= Clear Switch 3 24= Toggle Switch 1 25= Toggle Switch 2 26= Toggle Switch 3 27= Alarm Cycle Switch 1 28= Alarm Cycle Switch 2 29= Alarm Cycle Switch 3	30= Turn Off Dialer 31= Turn On Dialer 32= Turn Off Hook Switch 33= Turn On Hook Switch 34= Turn Off Postal 35= Turn On Postal 36= Turn Off Ajar1 37= Turn On Ajar1 38= Turn Off Ajar2 39= Turn On Ajar2 40= Turn Off Reader #1 41= Turn On Reader #1 42= Turn Off Reader #2 43= Turn On Reader #2 44= Play Message #1 45= Play Message #2 46= Play Message #3 47= Play Message #4 48= Play Message #5 49= Play Message #6 50= Play Message #7 51= Play Message #8 52= Display Message #1 53= Display Message #2 54= Display Message #3 55= Display Message #4 56= Display Message #5 57= Display Message #6 58= Display Message #7 59= Display Message #8	60= And Hook is True 61= And Postal is True 62= And Ajar1 is True 63= And Ajar2 is True 64= And Switch 1 is On 65= And Switch 2 is On 66= And Switch 3 is On 67= And Timer is Active 68= And Zone 22 is Open 69= And Zone 23 is Open 70= And Zone 24 is Open 71= And Hook is False 72= And Postal is False 73= And Ajar1 is False 74= And Ajar2 is False 75= And Switch 1 is Off 76= And Switch 2 is Off 77= And Switch 3 is Off 78= And Timer is Clear 79= And Zone 22 is Closed 80= And Zone 23 is Closed 81= And Zone 24 is Closed 82= Dialout from List 83= Restrict to List-A 84= Restrict to List-B 85= Enable Local Audio 86= Disable Speaker 87= Disable Microphone 88= Turn On Ted Mode 89= Turn Off Ted Mode	90= Instruction Screen Off 91= Full Duplex Mode Off 92= Undefined 93= Undefined 94= Undefined 95= Undefined 96= Undefined 97= Undefined 98= Undefined 99= Undefined
--	---	---	--

Note: These commands support three "3" general purpose system switches. These are internal to the units program and used for enabling or connecting procedures together. In general programming jargon they are typically called bit flags.

Note: The "And" function (60 to 81) allows for conditional processing. When an "And" Macro Command is encountered and tests false, then any following instruction(s) are blocked.

Each Event from Page 31 is a line on a lookup table which is 10 elements wide. Thus the table is 26 lines high (Events) by 10 elements wide (Macro Commands).

To View the Event Table using command ***#8**:

***#8** Displays table from top down and left to right.

Use the "*" key to proceed down the table to each event with wrapping at the bottom.
 Use the "0" key to proceed right on the table to each next command with wrapping at end.
 Use the "#" to exit this viewer mode.

Detail Programming Macro Commands Continued

Each Event uses two lines of the display to view. The left side is a short description of the event and each top line is labeled N1 N2 N3 N4 N5 N6 N7 N8 N9 N0 (N0 is actually N10). Of course you can't see all the numbered commands in one view so scroll across using the "0" key. It will wrap back to start after the last number is shown. Directly under the "N" is the actual Macro Command and should initially all be set to "00" as the Resume Command.

To Set a Macro Function using command #5:

```
#5 01*11*22*33#   Set Event Line-01 with commands 11,22,33, terminate.
#5 01#           Clear Event Line-01 by setting whole line to "00"s.
```

Here is a sample for setting up a two code function being required to Grant Access:

Program:

- 1) On Entry Code validated: <Set Switch 1 On><Set 4 Seconds on Timer><Discontinue>.
- 2) On Special-1: <And Switch 1 On><And Timer Clear><Clear Switch 1><Resume>.
- 3) On Card-1 Valid: <And Switch 1 is Off><Discontinue>.

Explanation:

- 1: Sets Switch-1 for a valid Entry Code, starts a Timer, but stops short of Entry Granted.
- 2: Is always checking Switch 1 and clears it anytime that the Timer expires. (clean up)
- 3: If Card-1 is Access Valid but Switch 1 was off then the Card-1 Valid is cleared only.

Thus a valid Card-1 Access can only be processed within 4 seconds of a valid Entry Code.

Ok.. you want a simple example? Here goes:

- 1) On Ajar-1 Input Active (Event number 4): <Cycle Relay-1> (Macro command 15)

Thus a simple contact closure on Ajar-1 input will Gate Cycle the Relay-1.

Programming example of the simple sample above:

Good and simple, this command does the basic job:

```
#5 04*15#
```

Better yet simple, this command includes a Audio Request to Enter but leaves the audio on:

```
#5 04*15*85*48#
```

Best, same as above, but cleans up after itself after the message has played.

```
#5 04*15*85*48*03*07#
```

Note: This procedure method just above doesn't activate until the Ajar-1 event concludes. A work-around would be more complex and use Event-24 starting with Command-62 but the following commands would have to form a procedure to stop the message from restarting the whole time while the Ajar-1 input is active.

Note: The above sample may appear to provide a method for gate access but be aware that the system doesn't know why you did this. Was it for Access or a Camera Enable? Thus the access event isn't placed in the Audit Log. We have not provided you with the ability to force a logged entry because a mistake in programming could fill up the log memory real fast. The commands we do allowed you to have can't harm the system. They might tie it into programming knots and loops but they can't harm it.

Note: Don't do this "#5 24*07#". This Macro sequence could normally lock up part of the system. However, we do trap for high frequency reset commands (07) to reduce such risks.

Master Erase System Data

This unit supports several bulk erase functions. They allow you to do a bulk erase of any database without scrubbing the whole system. Our previous units employed a program command to do a factory default erase. It was "#*0" from Programming mode. This same command would now be seen as "***". The original "#*0" now only presets SETUP to the factory defaults. The following is a complete list of Master Erase Commands from the Programming mode:

```
#*0    COMMAND TO RESTORE FACTORY DEFAULTS ONLY
#*1    COMMAND TO ERASE ALL POOLED ENTRY CODES ONLY
#*2    COMMAND TO ERASE ALL RESIDENT ENTRY CODES ONLY
#*3    COMMAND TO ERASE ALL POOLED CARD CODES ONLY
#*4    COMMAND TO ERASE ALL RESIDENT CARD CODES ONLY
#*5    COMMAND TO ERASE ALL RECORDED MESSAGES (*)
#*6    COMMAND TO ERASE THE AUDIT DATABASE
#*7    COMMAND TO ERASE THE ZONING DATABASE
#*8    COMMAND TO ERASE THE MACRO DATABASE
#*9    COMMAND TO ERASE EVERY DATABASE BUT SETUP AND RECORDER
#**    COMMAND TO ERASE DATABASES AND RELOAD FACTORY SETUPS
#*#    COMMAND TO ERASE EVERYTHING ERASABLE (*)
```

(*) Try to avoid these two Master Erases types as you would then have to re-record all voiced messages and lose the original ones shipped with your unit.

Note: For those units with displays, a confirmation prompt is provided to reduce the risk of erasing valuable data.

Troubleshooting & Testing

Check the Obvious:

Check 12 VAC is applied to the correct terminals and is on.

Check Phoneline is active 24V to 50V and applied to correct terminals.

Short Post Input and check for contact closure on Gate Control Relay next to Power Input.

Note: No field servicable parts on primary board. Refer repairs to Trigon Electronics.

The following simple tests check for functions that include about 95% of all logic and analog circuits on the primary board.

Dtmf Touch Tone Testing:

Place a call to Unit. On answered go into Program Mode. Send Tone Comand 9*.

Unit will respond with all 12 tones 1 to # then wait for you to send tones to echo.

Each tone you send is echoed back to you. The # tone will terminate test after echo.

Dialtone and Line Testing:

At unit enter Programming Mode via the Keypad. Enter Command 9*.

You should get Dialtone and an active Touch Tone Keypad. Call someone or your cell phone.

Confirm audio and keypad responses.

Recorder & Audio Testing:

At unit enter Programming Mode via the Keypad. Enter command 0#.

Push and hold the 8-Key while speaking into Microphone. Release the 8 key.

Your voice message should have been recorded and played back. Limited to 14 seconds.

Note: This replaces any pre-recorded message in position 8 which is normally reserved for recording visitor messages in TED mode.

Command Review via Display:

At unit enter Programming Mode via the Keypad. Enter Command ***.

Use * key to move down list. Use # key to exit listing.

List is complete but very abbreviated. It may help if this manual is lost.

Glossary of Terminology

Active Keypad: A keypad that is enabled for Touch Tone generation.

Ajar Fault Detect: Normally produces a contact closure when a portal is forced open.

Ajar Input: Electrical input detects a contact closure that specifies a custom procedure.

Alarm Timer: Programmable timer value applied as System Lockup for tampering detection.

Anti-Passback: Requires a card to be used at exit before enabled re-use at entrance.

Audit: Refers to a log kept regarding event activity with time recorded each event.

Auto Site ID: Automatic transmission of Site ID on call answered detection.

Auto Volume: Applies to automatic volume control based on ambient noise at the microphone.

Call Length Timer: A countdown timer that auto-disconnects call on expiration.

Call Progress: Detection of tone cadences indicating Busy, Ring, Dial tone and Voice.

Card Codes: A Card or Fob Code linked to a specific resident via their resident code.

Code Ranges: Defines a range of codes for alternate use besides normal access control.

Database: A collection of data in a consistent format applied to a specific theme.

Dialer Looping: In dialing a list of phone numbers, allows loop to first if not answered.

Dialer Modes: Applies to call progress, false dialing, dial tone detection.

Directory: A display to shows names and codes for visitors to a secured area.

DST: Daylight Savings Time adjusts clock up 1 hour for spring and back 1 hour for fall.

Entry Codes: A Keypad Code linked to a specific resident via their resident code.

Entry Message: A message voiced to a visitor to enter when gate unlocking is not obvious.

Factory Default: Program settings preset as shipped from the factory.

Fob: Like a card but usually transmits it's assigned code via RF technology.

Full Duplex: Speakerphone Technology allowing simultaneous bi-directional talking.

Gate 1 Cycle Timer: Programmable timer value applied to Relay-1 from 1 to 45 seconds.

Gate 2 Cycle Timer: Programmable timer value applied to Relay-2 from 1 to 45 seconds.

Gate 3 Cycle Timer: Programmable timer value applied to Relay-3 from 1 to 45 seconds.

Greeting Screens: A display screen set aside for greeting a visitor or extra information.

Half Duplex: Speakerphone Technology that switches Talk and Listen modes by source volume.

Handset Mode: To use a handset as opposed to speaker phone technology.

HF3 Mode: A single button dialer dials from a phone list used for access control.

Hook Switch Input: An electrical input sensing contact closure from a hook switch.

Hook Switch: A push button or cradle assembly for indicating intent to dial when active.

LAN: Local Area Network used for digital communication between devices in a network.

Macro Commands: User Coded Commands executed at specified times adds customized behaviors.

Master Erase: Block erase of system memory that targets specific databases.

MG3 Mode: A keypad selective multi-number residential dialer with a name directory.

Modem Extension: A two digit ID per unit for multiple units on a single phone line.

Modem: A device for bi-directional digital communication on a phone line.

Muted Site ID: Automatic transmission of Site ID on call answered detection muted locally.

Phone Lists: One or more phone number lists that are dialed in sequence until one answers.

Pooled Card Codes: A generic collection of card codes not linked to a resident code.

Pooled Entry Codes: A generic collection of keypad codes not linked to a resident code.

Postal Entry: Using a Postal key by a Postman to gain entry for delivery of mail.

Postal Switch Input: An electrical input sensing contact closure from a postal switch.

Postal Switch: A special lock supplied by the post office for postman keys.

Program Mode: To place a unit into a receptive state for input of data.

Programming Access Code: A 4 digit code entered to unit to place it in programming mode.

Prompt Lines: A displayed message with extra instructions applied to a visitor.

Quiet Keypad: A keypad that has audio feedback for keydown disabled.

Resident Code: An assigned short number translated to a phone number for dialing resident.

Resident: A person that dwells within a building.

Ring Counter: Counts Ring Cycles when the unit is called.

Ring Down: A term that applies to closing a phone line loop to call without dialing.

Ring Rollover: A Limit Value set for excessive Ring-Tones counted forcing a new dial out.

RS232: An old standard for bi-directional digital communication on 3 wires.

RS485: An new standard for bi-directional digital communication on 2 wires.

Security Modes: Methods to circumvent illegal access via microphone Touch Tone injection.

Site Code: A 3 digit extension added to the normal 5 digit card codes.

Site ID Code: A unique 4 digit ID code assigned per unit for ID requesting remotely.

Switch: In this document refers to a virtual switch as applied to Macro Commands.

System Clock: The clock and calendar functions for usage logging and access restrictions.

Glossary of Terminology Continued

System Configuration: How the Memory is allocated to various databases by quantity.
System Setup: Values that control a units operation such as timers and other variables.
TA3 Mode: A single button dialer dials from a phone list used for emergency contact.
Tamper Alarm: Counts random attempts to discover access codes, results in timed lockout.
TED Mode: Automated Trigon Electronics Doorman, protects resident using voiced recordings.
Telco: A common term referring to a telephone company.
Template: A method of guiding something to conform to a rigid shape or set of rules.
Time Zones: A value assigned to a user that restricts their access to preset times.
Tone Functions: Various functions like relay selection assigned to specific touch tones.
Touch Tone Extension: A two digit ID per unit for multiple units on a single phone line.
Touch Tones: A standard tone based technology that assigns numerical values to tones.
TriComPro: A program by Trigon Electronics for communication with various products.
Voice Recorder: A solid state voice recorder and playback chip for 8 14-seconds messages.
Wiegand Format: A standard 26 bit card value interfaced via standard 4 wire connections.

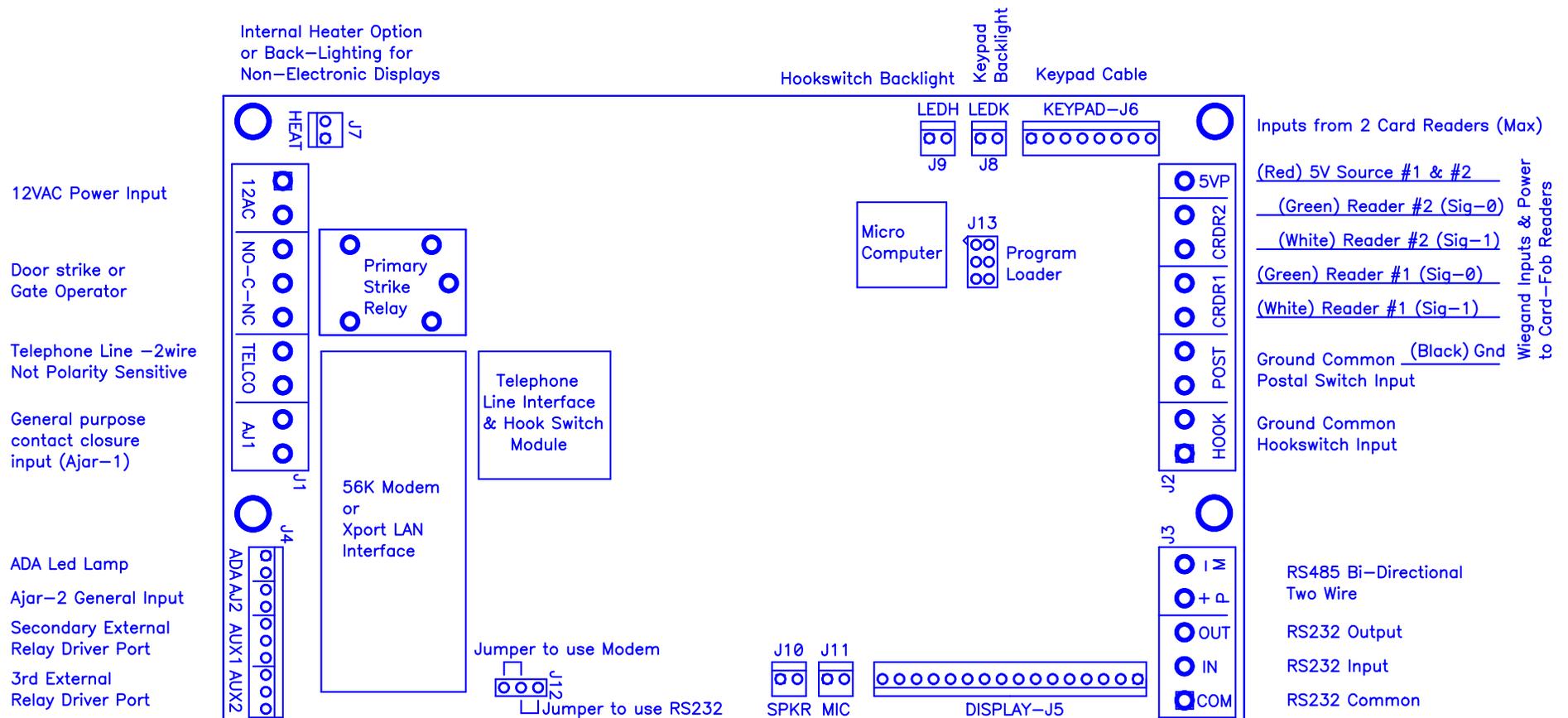
Important Notes and Additions

Macro Command 90 added: Use in Restart Event-1. Disables factory Instruction Screen.
--You should use a Greeting Screen and display your own Instructions for user.--

Macro Command 91 added: Use in Restart Event-1. Disables Full-Duplex conversation mode.
--In loud area's the normal full-duplex mode may cause conversational drop-outs.--

Auto Prompting added: For units with displays, command "#0#" will activate Auto Prompts.
--Speeds up Programming Resident Codes and a respective single Phone Number via keypad.--

Uni-2010 Board and Connections Dwg



Note: For J12
Do not jumper all Three

Speaker and
Mic Inputs

General 16 Wire Display Driver Port
with Back Lighting Support