

Trilogy DL2700 Programming Instructions

OI209A 2/04

CONGRATULATIONS!

Your new Alarm Lock Trilogy electronic digital lock is a rugged entry lock of advanced design with several programmable features. Three security levels are provided: **Master** (can perform ALL functions), **Manager** (can perform MOST functions plus entry), and **Basic User** (entry only).

The lock includes 100 User Codes (consisting of Managers and Basic Users), plus three "one-time entry" Service Codes. The Manager/Basic User Codes are organized similar to a grid--ten banks of ten Access Codes.

Take the time to read through this guide to familiarize yourself with the features and operations of the lock, and its quick and easy programming procedures.

Features

- 1 Master Code (all functions including entry)
- 10 Manager Codes (perform SOME programming functions plus entry)
- 90 Basic User Access Codes (Entry Only)
- 3 Service Codes ("One-Time Entry" Codes)
- Two User Disable Modes:
 - All User Codes Disabled Except Master Code
 - All User Codes in a Bank Disabled Except Manager Codes
- 30-Second Keypad Anti-Tamper Lockout: (Keypad Lockout After 3 Unsuccessful User Code Entries)
- Programmable Relay Functions: (Relay may be keypad programmed to energize on any keypress 0-9 or on unlock).

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Wiring

See the Installation Instructions for more information.

Batteries:

Use only 1.5 volt Duracell Alkaline size-AA batteries.

External Power:

An external 7.5 VDC Power Source, capable of at least 100mA, must be used for operation without batteries in the lock. Use an external UL-Listed power supply provided with backup battery power and current limiting protection that is approved for the application.

BLACK = Negative, RED = Positive.

Aux Relay:

Aux Relay allows up to 300mA @ 60VDC Maximum. See page 10 for programming options for the Relay ("AUX Relay Functions").

BLUE = Common, YELLOW = N/O, GREEN = N/C.

Remote Switch Input (2 White Wires)

A remote momentary switch can be wired to allow access when activated. Wire a normally open push button switch to the two white wires. Press for one second to unlock the DL2700.

Quick Start

First Time Start Up

- 1. Unpack the lock from its factory packaging.
- 2. With the batteries disconnected, hold down the 5 key (or any numeric key) for 10 seconds and release.
- 3. Connect the batteries and--within 3 seconds--press and hold the solution. After hearing 6 beeps, release the solution. Wait 5 seconds for lock to re-lock (listen for 1 beep and red LED). This will clear the lock of all programmed data, and the lock is now ready to accept programming. Note: Failure to follow this exact procedure can result in erratic lock behavior.
- **Important Note:** When entering any key sequence below, *do not pause more than 5 seconds between any key presses--*otherwise you must start again. (**Note:** If you wish, this 5-second delay between key presses can be extended--see *Pass Time* on page 9 after completing this section).

No other programming commands will be accepted until the Factory Master Code has been changed.

Change Factory Master Code

The Master Code is a "secret" code (entered at the keypad) that allows you to change ALL programming functions and options. Because all locks are manufactured identically (and leave the factory with the *same* Master Code), this "factory Master Code" is not very secret--and MUST be changed to your own personal Master Code to ensure security. A 5 digit Code is recommended.

- 1. Press the factory Master Code: 1 2 3 4 5. A beep will sound and the lock will open.
- 2. Within 5 seconds, press 💷 💷 💷.
- 3. Within 5 seconds, enter a new Master Code. This new Master Code may consist of 3 to 5 digits*, however, the number selected determines the number required for all subsequent Manager and User Access Codes.
- 4. Press 💷.
- 5. Re-enter the new Master Code again to validate. A 6-beep acknowledgement (with a red LED) will sound. Wait 5 seconds for lock to re-lock.
- 6. Test the new Master Code. Enter the new Master Code; a beep will sound and the lock will unlock. Now that the Master Code has been changed, there is no need to change it again (unless you want to).

For example, if you want your new Master Code to be "44444", press:

				کار محکار محکار محکار محک	
If you wish, write your new Master Co	ode in the spaces	; provided: 			
		Write your new Master Code		(Repeat)	
				C	ontinued
* Once the number of digits is selected, it cannot be using the "Erase All Programming" procedure for	changed unless all ound on page 11.	programming is erased and the	Factory	Default settings are re-load	led

Quick Start (cont'd)

Enter a Manager Code

- Manager Codes are located at locations 00, 10, 20, 30, 40, 50, 60, 70, 80, and 90 (see grid on page 4). Note: New Manager Codes MUST use the same number of digits as the (new) Master Code. Enter as follows.
- 1. Press the (new) Master Code.
- 2. Press [I] [press a Manager location i.e. 00, 10, 20, 30, 40, 50, 60, 70, 80, or 90] [I].
- Press a new Manager Code <u>using the same number of digits as the (new) Master Code</u>. A 6-beep acknowledgement (with a red LED) will sound. Wait 5 seconds for lock to re-lock. For example, if you want to add a Manager Code of "33333" in location 00,
 - [Press the (new) Master Code]
- 4. If lock remains open, repeat from step 2; otherwise restart from step 1 for each new Manager Code.

Enter Basic User Access Codes

See the grid on page 4 for more information regarding User locations. You can choose to enter your User Codes in many possible locations, and in any order you wish. User Codes do not have programming privileges (entry only). Duplicate User Codes are not allowed.

- 1. Press the (new) Master Code or associated Manager Code.
- Press I [press a 2-digit location number]
- Press a new User Access Code <u>using the same number of digits as the (new) Master Code</u>. A six-beep acknowledgement (with a red LED) will sound. Wait 5 seconds for lock to re-lock. The new User Access Code is now entered in that location number.

For example, if you want to add a User Access Code of "22222" in User Number 01, press: [(New) Master Code]

4. If lock remains open, repeat from step 2; otherwise restart from step 1 for each new User Access Code.

Delete a User Access Code

The Master Code cannot be deleted. Manager Codes can only be deleted with the Master Code. If the location (User Number) of the Code is unknown, use the Code Location Function (page 8).

- 1. Press the (new) Master Code or Manager Code.
- 2. Press 💷 [press the 2-digit location number] 🖭 💽. A six-beep acknowledgement (with a red LED) will

sound. Wait 5 seconds for lock to re-lock. The User Access Code is now deleted. For example, if you want to delete a User Access Code located in location 47, press:

[(New) Master/Manager Code] 💽 🖪 🗇 💽 💽.

 If lock remains open, repeat from step 2; otherwise restart from step 1 for each User Access Code you want to delete.

Testing Codes

- VALID CODE The Green LED will flash (with 1 beep) after a valid code is entered. The lock will unlock immediately and remain unlocked for about 5 seconds (this "unlocked" time is the "Pass Time"). To make the Pass Time longer or shorter, use the Pass Time Function on page 9. Note: While the lever or knob may be rotated at any time, the latch will not be engaged to unlock the door unless a valid User Access Code is entered at the keypad.
- **INVALID CODE** The Red LED will flash 5 times (with 5 beeps) after an invalid code is entered. (To quickly clear an invalid User Access Code, press and immediately re-enter the correct Code).
- **KEYPAD ANTI-TAMPER LOCKOUT -** If 3 invalid User Access Codes are entered in succession, the lock will turn off for approximately 30 seconds to prevent tampering. The DL2700 will emit 2 beeps with a Red LED flash warning at the end of the anti-tamper period. The lock will exit Anti-Tamper mode in 30 seconds or upon activation of the Remote Switch Input (white wires). **Note:** The lock will go into Anti-Tamper after 3 unsuccessful Code entries *even if entered by different users and spaced apart in time*. Therefore, the lock may "appear" to go into Anti-Tamper Lockout *even after the entry of just one invalid User Access Code*.

Manager & User Location Worksheet

The DL2700 lock provides three "security levels": **Master** (can perform ALL functions), **Manager** (can perform SOME programming functions plus entry), and **Basic User** (entry only). In total, there are 104 "locations" inside the DL2700 lock: one Master Code, 10 Manager and 90 User Access Codes, and three "one-time entry" Service Codes. *Where the Access Code is located will determine its security level.* From the factory, all locations (except for the Master Code) are empty; each location can then be programmed to contain an Access Code, and these Access Codes enable Users to program and/or unlock the lock. As a visual aid, the 100 Manager/User Access Code locations are detailed in the grid below, with ten "Banks" (columns) of ten "Managers/ Users" (rows). Each of the 100 squares in the grid is identified by a unique two-digit location (00) through (99). Notice that these two digits also specify its Bank (column) and Manager/User (row) location in the grid. Also notice that all Managers are in the top row, their locations all ending in a zero (locations 00, 10, 20, 30 and so on through 90). **Note:** Use the blank grid below as a **Programming Worksheet** for preparing all programming in advance. Store this worksheet in a safe place for future reference.

Each square represents a location inside the lock (excluding the Master Code and the 3 Service Codes). Each location can hold one "User Access Code" which can unlock the lock.

	BANK 0	BANK 1	BANK 2	BANK 3	BANK 4	BANK 5	BANK 6	BANK 7	BANK 8	BANK 9
MANAGERS	MGR 00	MGR 10	MGR 20	MGR 30	MGR 40	MGR 50	MGR 60	MGR 70	MGR 80	MGR 90
\rightarrow										
USERS →	USER 01	USER 11	USER 21	USER 31	USER 41	USER 51	USER 61	USER 71	USER 81	USER 91
USERS →	USER 02	USER 12	USER 22	USER 32	USER 42	USER 52	USER 62	USER 72	USER 82	USER 92
USERS →	USER 03	USER 13	USER 23	USER 33	USER 43	USER 53	USER 63	USER 73	USER 83	USER 93
USERS →	USER 04	USER 14	USER 24	USER 34	USER 44	USER 54	USER 64	USER 74	USER 84	USER 94
USERS →	USER 05	USER 15	USER 25	USER 35	USER 45	USER 55	USER 65	USER 75	USER 85	USER 95
USERS →	USER 06	USER 16	USER 26	USER 36	USER 46	USER 56	USER 66	USER 76	USER 86	USER 96
USERS →	USER 07	USER 17	USER 27	USER 37	USER 47	USER 57	USER 67	USER 77	USER 87	USER 97
USERS →	USER 08	USER 18	USER 28	USER 38	USER 48	USER 58	USER 68	USER 78	USER 88	USER 98
USERS →	USER 09	USER 19	USER 29	USER 39	USER 49	USER 59	USER 69	USER 79	USER 89	USER 99
100%		_ [MASTER	CODE	S	ERVICE CODE	1 SERV	ICE CODE 2	SERVICE	CODE 3

Manager & User Location Example

User Access Codes allow access only; *Manager Codes* allow more: Manager Codes have the ability to program and delete User Access Codes within that Manager's Bank (column). The DL2700 lock can hold up to 10 Manager Codes, one for each Bank (locations (00), (10), (20), (30), (40), (50), (60), (70), (80), (90)), and are all found at the top row of the grid below. **Note:** Only the Master Code can add or delete a Manager Code.

In addition, Managers not only possess programming abilities for User Access Codes residing in their own Bank, but also for all higher Banks until the next programmed Manager Code appears.

For example (see shaded grid below), if Manager Codes are programmed for locations (00) and (60), then the Manager in location (00) has control of the gray-shaded locations (00-09, 11-19, 21-29, 31-39, 41-49, and 51-59). The Manager in location (60) then has control over the black-shaded locations (61-69, 71-79, 81-89, and 91-99).

Note: If you wish to grant any Manager the ability to program any User, use the "Disable Groups" Function on page 9 (Enter the Master Code, then press (1) (2)(1)(1)(2)).

P	Manag Program	ger Code nmed here							Manager Co Programmed	ode here	
L		(BANK 0)	(BANK 1)	(BANK 2)	(BANK 3)	(BANK 4)	(BANK 5)	(BANK 6)	(BANK 7)	(BANK 8)	(BANK 9)
MANAG →	GERS	MGR 00	MGR 10 (BLANK)	MGR 20 (BLANK)	MGR 30 (BLANK)	MGR 40 (BLANK)	MGR 50 (BLANK)	MGR 60	MGR 70 (BLANK)	MGR 80 (BLANK)	MGR 90 (BLANK)
USEF →	RS	USER 01	USER 11	USER 21	USER 31	USER 41	USER 51	USER 61	USER 71	USER 81	USER 91
USEF →	RS	USER 02	USER 12	USER 22	USER 32	USER 42	USER 52	USER 62	USER 72	USER 82	USER 92
USEI →	RS	USER 03	USER 13	USER 23	USER 33	USER 43	USER 53	USER 63	USER 73	USER 83	USER 93
USEF →	RS	USER 04	USER 14	USER 24	USER 34	USER 44	USER 54	USER 64	USER 74	USER 84	USER 94
USEI →	RS	USER 05	USER 15	USER 25	USER 35	USER 45	USER 55	USER 65	USER 75	USER 85	USER 95
USEI →	RS	USER 06	USER 16	USER 26	USER 36	USER 46	USER 56	USER 66	USER 76	USER 86	USER 96
USEI →	RS	USER 07	USER 17	USER 27	USER 37	USER 47	USER 57	USER 67	USER 77	USER 87	USER 97
USEI →	RS	USER 08	USER 18	USER 28	USER 38	USER 48	USER 58	USER 68	USER 78	USER 88	USER 98
USEI →	RS	USER 09	USER 19	USER 29	USER 39	USER 49	USER 59	USER 69	USER 79	USER 89	USER 99
	Manager Location Example										

Programming Worksheet: Functions

Directions: The Factory Master Code (1-2-3-4-5) must first be reprogrammed as a new Master Code before any other programming can take place. All new Access Codes must have the same number of digits as the new Master Code. Choose new Access Codes and write them in spaces provided (in pencil) before programming the lock. 6 beeps will usually be heard after an acceptable entry.

FUNCTION	PRESS THESE BUTTONS ON KEYPAD
Change Existing Master Code	[Enter Factory or Existing Master Code]
	[Re-enter New Master Code] [6 beeps = OK]
Add/Change Manager Codes (up to 10)	[Enter Master Code] [Enter 2-digit Manager Location _] [[enter new Manager Code] [6 beeps = OK]
Add/Change User Codes (up to 90)	Press Master or Manager Code [[Enter 2-digit Location _] [[Enter new User Code] [6 beeps = OK]
Deleting Manager & User Codes	Press Master or Manager Code 💷 [Enter Bank Number] [Enter User Number]
Disable User Number	Press Master or Manager Code 💷 [Enter Bank Number] [Enter User Number]
Enable User Number	Press Master or Manager Code 📧 [Enter Bank Number] [Enter User Number]
Disable All	Press Master or Manager Code 💶 🧐 5 ち 📧 (Reset with Function 944)
Enable All	Press Master or Manager Code 💶 🧐 🖪 🖪 💷
Disable Users Only	Press Master or Manager Code 💷 🧐 🗂 💽 💷 (Reset with Function 944)
Code Location Function	Press Master or Manager Code
Next Free CodeAddress Locator	Press Master or Manager Code 💷 🔽 💷 [Responds with Bank # and User #]
Service Code 1	Press Master or Manager Code 💷 🛐 💽 🚺 💷 [Enter new Service Code]
Service Code 2	Press Master or Manager Code 💶 🛐 💽 😰 💷 [Enter new Service Code]
Service Code 3	Press Master or Manager Code 💷 🛐 💽 🕄 [Enter new Service Code]
Clear Service Codes	Press Master or Manager Code 💷 🛐 💽 💽
Enable Passage Mode	Press Master or Manager Code 💶 💶
Disable Passage Mode	Press Master or Manager Code 💷 🗔
Pass Time ("Door Unlock")	Press Master Code 💶 4 [Enter "02" - "20" seconds]
Enable Groups	Press Master Code 💽 🔼 🚺 💽
Disable Groups	Press Master Code 💷 🔼 🗂 🗔
Disable Users In Bank	Press Master or Manager Code 💶 🖪 🔼 [Enter Bank Number (0-9)]
Enable Users in Bank	Press Master or Manager Code 💶 🖪 4 [Enter Bank Number (0-9)]
High Freq KP Feedback + Led	Press Master Code 🚺 🔼 🔃 💶
Low Freq KP Feedback + Led	Press Master Code 💷 🔼 💶 💷
Click! KP Feedback + Led	Press Master Code 1 2 2 1
Led Only	Press Master Code 1 2 2 3 1
Disable AUX Relay Function	Press Master Code 1 2 0 0 1
AUX Relay on any First Keypress (0-9)	Press Master Code 🚺 🔼 🚺 💷
AUX Relay When Unlocked	Press Master Code 💽 🔼 🔲 🔼 💷
Lock Identifier	[Any Digit] [Any Digit] [1] [Listen for musical tones]

Note: Managers do not have the ability to add/delete/enable/disable Users outside their Bank, unless Groups are disabled.

Programming Functions						
Change Existing Master Code* 💷 💷						
For new locks, follow the "Quick Start" on page 2.						
Image: Construction of the second						
Add/Change Manager Codes [] [] [] [] [] [] [] [] [] [
Master Code** Imager Bank (Column) 0-9 Manager Bank (Column) 0-9 User (Row) Always zero for Managers						
Add/Change User Codes []						
Master Code or Manager Code** Master (Column) 0-9 New User Code						
Deleting Manager & User Codes [] Follow the "Quick Start" on page 3.						
Master or Manager Code** Imager Bank (Column) 0-9 0-9						
Disable/Enable Users						
Enter the Master Code to disable/enable any Manager or User, or enter a Manager Code to disable any User within the Manager's Bank.						
Disable User Number [] I Bank/User Number (Allow system to relock)						
Enable User Number (Allow system to relock) Master or Manager Code Bank/User Number						
* Once the number of digits is selected, it cannot be changed unless all programming is erased and the Factory Default settings are re-loaded (power must be removed and re-applied as per the "Erase All Programming" procedure found on page 11.						

Required only if DL2700 is locked.

Programming Functions (cont'd)

Enable/Disable All

Disable All: If Master Code is used, disables all 100 User\Manager Codes and clears all 3 Service Codes. If a Manager Code is used, disables all Users (even across multiple Banks) under that Manager.

Disable Users Only: If Master Code is used, disables all 90 Users and clears all 3 Service Codes, while Managers remain active. If a Manager Code is used, disables all Users (even across multiple banks) under that Manager.

Enable All: If Master Code is used, re-enables all 100 User/Manager Codes (Service Codes must be re-programmed). If a Manager Code is used, re-enables all Users (even across multiple Banks) under that Manager. Note: Managers cannot disable themselves. Use Function 944 to restore Functions 955 and 950. In addition, if Codes are disabled using Function 955 or 950, and a new User Code is subsequently added (or an existing Code changed), the new (or changed) User Code will automatically become enabled.

existing Code changed), the new (or changed) Use	er Code will automatically become enabled.				
Disable All	Master/Manager Code**				
Disable Users Only	Master/Manager Code**				
Enable All	Master/Manager Code**				
Code Location Function 💷 📧 💷					
Be sure to record all Code locations in the blank work not known, use this function to find the Code. The lo flashing the GREEN LED 0 to 9 times as detailed belo	sheet (page 4) for future reference. If the location of a Code is ck will identify the BANK (0-9) and USER (0-9) by beeping and ow.				
[] [] [] [6] [] Master/Manager Code**	Code 2 - 5 digits				
 If the code entered is recognized, the following sequence will occur: At the start of the Code Location sequence, the lock will Flash both the GREEN and RED LEDs and will emit a low tone. The lock will identify the Bank number by flashing the GREEN LED and beeping the sounder from 0 -9 times. To signify the end of the Bank number ID sequence, the lock will flash both the GREEN and RED LEDs and will emit a low tone. The lock will identify the User number by flashing the GREEN LED and beeping the sounder from 0-9 times. To signify the end of the Code Location function, the lock will flash both the GREEN and RED LEDs and will emit a low tone. To signify the end of the Code Location function, the lock will flash both the GREEN and RED LEDs and will emit a low tone. Should the Code not be recognized, the lock will sound 5 beeps with a RED LED. When the Bank and/or slot numbers are zero, the GREEN LED will not flash and the sounder will not beep. 					
Next Free Code Address Locator Using the same method of beeps and flashes used ter or Managers Code entered, the lock will report t ming.	in the Code Location Function, and dependent on the Mas- he next available address for User Access Code program-				
Master/Manager Code**					
 Report Sequence 1. At the start of the Next Free Code Location function, the lock 2. The lock will identify the Bank number by flashing the GREE 3. To signify the end of the Bank number ID sequence, the lock 4. The lock will identify the User number by flashing the GREEN 5. To signify the end of the Code Location function, the lock will address is found, then the lock will emit a programming error zero. 	will Flash both the GREEN and RED LEDs and will emit a low tone. N LED and beeping the sounder from 0 -9 times. will flash both the GREEN and RED LEDs and will emit a low tone. N LED and beeping the sounder from 0-9 times. Il flash both the GREEN and RED LEDs and will emit a low tone. If no free tone sequence. No LED flashes/sounder beeps represent the number				
** Required only if DL2700 is locked.					

Programming Functions (cont'd)

Add/Delete Service Codes

Service Codes are one-time-only Codes; once entered into the keypad, it is deleted. Use the same Code up to 3 times by programming all three Service Codes with the same Code. **Note:** Service Codes are lost if power is removed. To delete a single Service Code, press , enter Service Code number (301, 302 or 303), then press **1**.

Service Code 1
Service Code 2] New Service Code <
Service Code 3 <
Delete All Service Codes [] [1] [3][0][0] [1] Master/Manager Code**
Enable/Disable Passage Mode
Allows passage without the need to enter a Code into the keypad.
Enable Passage Mode [] ("Unlocked") Master or Manager Code**
Disable Passage Mode [] [[] [] [] [] ("Normal Operation") Master or Manager Code**
Pass Time ("Door Unlock")
The Pass Time is the time the lock stays unlocked after a valid Code entry. Use the function below to change the Pass Time from 02 to 20 seconds. The Pass Time factory default is 5 seconds. NOTE: The Pass Time will also determine the amount of time allowed between keypresses during programming.
Pass Time Image: Code** Image: Pass Time
Disable/Enable Groups
 Disable Groups: All Managers can program all User Access Codes, regardless of Bank. Enable Groups: (Factory default) Managers restricted to controlling only those User Access Codes within their own Bank (column), and all following Banks until another Manager appears. User Access Codes in Banks outside of that Manager's Bank cannot be programmed.
Disable Groups [] I 211 I Master Code**
Enable Groups [] I 210 I Master Code**
** Required only if DL2700 is locked.

Programming Functions (cont'd)						
Disable/Enable Users in Bank						
Enter Bank number (0-9) to Enable/Disable accented five beep error tone (indicating the	e all Users in Bank. Entering a disabled Code will result in an e User Access Code is valid but disabled).					
Disable Users in Bank [M	aster/Manager Code**					
Enable Users in Bank [aster/Manager Code**					
Keypress Sound Options						
The DL2700 is capable of emitting 1 of 4 pc High Frequency Keypad Feedback + Low Frequency Keypad Feedback + I "Click!" Keypad Feedback + Led Led Only	ossible keypress sounds: Led Led					
High Freq KP Keypress S (Default)	ound + Led [] I 2200 I Master Code**					
Low Freq KP Keypress So	Dund + Led [] I 221 I Master Code**					
Click! KP Keypress Soun	d + Led [] I 222 I Master Code**					
Led Only	Master Code**					
AUX Relay Functions						
Program the functions below to activate the the DL2700 is unlocked (Function 202). In programmed in Pass Time. See page 2 for	Auxiliary Relay on any numeric keypress (Function 201), or when either case the Aux Relay will be active for the duration information regarding the wiring of AUX leads.					
Disable AUX Relay Func	tion [] (1) (2) (0) (1) Master Code**					
AUX Relay on Any First Keypress (0-9) [] [2 0 1 [
AUX Relay When Unlo	cked []					
Lock Identifier						
To aid in distinguishing your lock model from earlier Alarm Lock versions, your DL2700 model will respond to any two digits plus the star key by (1) lighting the green LED and (2) playing a musical scale of 8 notes.						
Lock Identifier	[] [] 💌 (Any Two Digits)					