



*Note: This product is designed to be installed and serviced  
by security and lock industry professionals.*

# LS1

## Access Control Lockset Programming Manual

<p><b>Service Company, Put Contact Information Here:</b></p> <p>Company Name: _____</p> <p>Service Number: _____</p>
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# 1. Introduction

## 1.1 About this Manual

This manual is designed for installers of the LS1 Access Control Lockset. It contains information about operation and keypad programming instructions.

For hardware installation information, refer to the LS1 Installation Instructions (Document # 6-058004), included with this unit.

## 1.2 Safety Warnings and Cautions

When handling the main printed circuit board, to guard against possible static discharges, touch a grounded object BEFORE touching the unit. Static shock can render the product unusable.

## 1.3 Design Change Disclaimer

Due to design changes and product improvements, information in this manual is subject to change without notice. The manufacturer assumes no responsibility for any errors that may appear in this manual.

## 1.4 FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/television technician for help

Any changes or modifications not expressly approved by the party responsible for compliance could void the users' authority to operate the equipment.

The term "IC:" before the radio certification number only signifies that Industry of Canada technical specifications were met.

## 1.5 Technical Support

**DEALERS/INSTALLERS ONLY!** End users must contact the dealer/installer for support. If the keypad still does not work after troubleshooting, please call the Technical Services department at 1-800-421-1587.

## 1.6 Limited Warranty

This Nortek Security & Control product is warranted against defects in material and workmanship for twenty four (24) months. **This warranty extends only to wholesale customers** who buy direct from Nortek Security & Control or through Nortek Security & Control's normal distribution channels. **Nortek Security & Control does not warrant this product to consumers.** Consumers should inquire from their selling dealer as to the nature of the dealer's warranty, if any. **There are no obligations or liabilities on the part of Nortek Security & Control LLC for consequential damages arising out of or in connection with use or performance of this product or other indirect damages with respect to loss of property, revenue, or profit, or cost of removal, installation, or reinstallation.** All implied warranties, including implied warranties for merchantability and implied warranties for fitness, are valid only until the warranty expires. **This Nortek Security & Control LLC Warranty is in lieu of all other warranties express or implied.**

All products returned for warranty service require a Return Authorization Number (RA#). Contact Returns at 1-855-546-3351 for an RA# and other important details.

## 1.7 General Description and Features

Providing the combination of access control protection, and an ANSI Grade-1 lockset, the LS1 series locksets are a perfect choice to manage door access that may otherwise not be available through traditional hardwired access systems. The access decisions are made at the door and access is granted to those that have a valid PIN programmed into the LS1.

### Important features include:

- 120 User capacity
- Non-Volatile EEPROM memory allows in-shop programming
- One non-handed unit for both indoor and outdoor applications
- Wire raceway provides clean installation and protects wires inside door
- Programs the same as all Door♦Gard<sup>®</sup> products
- Durable alpha-numeric Braille keys
- Selective Lockout of grouped users
- Passage/Toggle codes allow door to remain unlocked
- Service codes allow one-time entry then are deleted automatically
- Error Lockout for successive invalid attempts
- Two-Stage Low Battery Alert assures entry
- Request to Exit (REX) Input for one-button unlocking of the door from the secure side
- Door Position Input for connection to a door position switch
- Propped Door and Forced Door alerts available when used with a door position switch
- Four standard AA batteries provide up to 150,000 operations

## 1.8 Specifications

**Table 1. Specifications**

<b>Electrical</b>	
Voltage	6 Volts (Four 1.5 Volt AA Batteries)
Current Draw (sleep mode)	30 $\mu$ A
<b>Monitor Inputs</b>	
Door Position Switch Input	Normally Open, Dry Contact
Request to Exit (REX) Input	Normally Open, Dry Contact
<b>Unit Capacity</b>	
Users	120 Maximum
<b>Environmental</b>	
Operating Environment	Indoor or Outdoor (The rear part of the system must be indoors; only the keypad can be outside.)
Operating Temperature	-20° to 120° F (-29° to 49° C)

## 1.9 Default Settings

The table below lists the default settings for the unit as shipped from the factory. Subsequent sections in this manual explain how to change these default settings or program additional functions.

**Table 2. Default Settings**

<b>Option</b>	<b>Default Setting</b>
Master Code (User Location 1)	1234
Lock Time	5 Seconds
Propped Door Audio Alert	Disabled
Propped Door Audio Alert Delay Time	30 Seconds
Forced Door Audio Alert	Disabled
Forced Door Audio Alert Expire Time	10 Seconds
Audible Keypress Feedback	Enabled
Visual Keypress Feedback	Enabled
Auto-Entry (no * required)	Disabled
User Lockout	Enabled
Error Lockout	Enabled
Error Lockout Duration	10 Seconds
Error Lockout Threshold	3 Attempts

## 1.10 LED Indicators/Sounder Operations

The table below describes the various LED and Sounder indications used in the LS1.

**Table 3. LED Indicators/Sounder Operations**

LED/Sounder	Visual/Audible Condition	Description
<b>Yellow LED</b>	Slow flash	Unit is in Program mode
	Rapid flash	Verify mode is active (during Program Mode)
	Steady	Program error; error lockout (no keypress feedback), to clear press *
	Very rapid flash	Memory erase is in progress (Command 46)
<b>Bi-color LED</b>	Steady green	Lock is energized (timed or latched), green LED lights only for 1 second, regardless of the unlock time
	½ Second Green Flash	After enter <b>5 # Code *</b> ; This sequence indicates a single-use code is programmed.
<b>Bi-color and Yellow</b>	Rapid red/yellow/green sequencing	Power on condition
<b>Sounder (system)</b>	Short beep (100 ms) every 2 seconds	Propped Door Audio Alert
	Sounder 1/2 sec on, 1/2 sec off	Forced Door Audio Alert
	3 slow beeps (250ms), followed by a double-beep	Indicates self-test
<b>Sounder (after PIN)</b>	3 rapid beeps	PIN not found
	Double Beep	User Lockout Canceled
	Pair of Double Beep	User Lockout Activated
	1 Long Beep Followed by 1 Short Beep	Access Denied – User Disabled
	1 Long Beep Followed by 3 Short Beeps	Access Denied – User Locked Out
	6 Quick Beeps	Toggle Mode is Active
	4 Long Beeps	Low Voltage Warning
	4 Long Beeps, pause, 4 more Long Beeps	Low Voltage Inhibit Warning (Door will not unlock)

## 1.11 LS1 Connectors

The table below describes the various connectors on the LS1 and their function.

**Table 4. Connector Pin-outs**

Connector	Description		
J1	<b>Battery Connector</b>		
	<b>Pin</b>	<b>Wire Color</b>	<b>Function</b>
	1	Red	Battery +
	2	Black	Battery -
	3	Not Used	
J2	<b>Keypad Connector for Flex Cable (26 pins)</b>		
	The flex cable is keyed and pin 1 must match up.		
J4	<b>REX/Door Loop</b>		
	<b>Pin</b>	<b>Wire Color</b>	<b>Function</b>
	1	Brown	REX
	2	Orange	REX
	3	Green	Not Used
	4	White	Door Loop
	5	Yellow	Door Loop
	6	Gray	Not Used
J5	<b>Motor Cable</b>		
	<b>Pin</b>	<b>Wire Color</b>	<b>Function</b>
	1	Red	Motor A
	2	Gray	Motor B

## 1.12 Battery Operation

The LS1 is a battery powered product. When system is not in use, it consumes very little power, but the batteries normally discharge over an extended period. The unit powers itself down (sleep mode) after each of the following events:

- Fifteen (15) seconds after the last keypress that does not result in an unlock
- Immediately after sending the lock pulse, regardless of what triggered it (valid PIN or REX)
- Fifteen (15) seconds after a Lockout Code is entered
- Immediately after a Toggle/Passage (on/off) code is entered

The LS1 is equipped with two separate low voltage warnings to indicate when the batteries are low and should be changed. To determine the operating voltage, the unit wakes up momentarily every 30 seconds to check the battery voltage. If the battery is below the warning threshold you get a warning. These are described below.

### 1.12.1 Low Voltage Warning

When the battery voltage drops below 4.4 Volts, the Low Voltage Warning sounds after entering a valid code. This warning is indicated by four long beeps. The lock still activates allowing you access through the door. At this point, it is recommended that you change the batteries as soon as possible.

### 1.12.2 Low Voltage Inhibit Warning

The Low Voltage Inhibit Warning, which occurs when the voltage drops below 4.0 Volts, is a more severe condition that requires you change the batteries immediately. This is indicated by four long beeps, a pause, then another four long beeps. When this condition occurs the lock does not activate when a user enters their code. In order to get through the door, you must enter either the Master Code, the Supervisor Code or an Emergency Code. These codes have special privileges that allow the door to unlock when the voltage is this low. This allows you access to the secure area to change the batteries.

## 1.13 Performing a Keypad Self-Test

To verify that all the LS1 keypad keys are operating properly, you can perform the keypad self-test.

To perform the keypad self-test enter the following on the keypad outside of programming mode:

Press: **7890 # 123456 \***

While you are pressing the keys pay attention to the keypress audible and visual feedback (if enabled). Each key should beep when pressed and the yellow LED should flash. If the test is successful the keypad LED's will cycle and the unit beeps three times, followed by a double-beep. The yellow LED flashes on the first beep of the double-beep.



## 2. Programming

This guide provides information about programming the LS1 lockset. **Certain parameters must be programmed upon initial installation, such as changing the default Master Code.**

The LS1 has capacity for 120 users, the Master Code is always user location #1, and the Supervisor Code is always user location #2.

### 2.1 General Programming Features

The first step in programming the LS1 unit is to place it into Program Mode by using the Master Code, which is set to 1234 by default.

- To place the unit in Program Mode, press: **99 # Master Code \***
- When the LS1 is in Program Mode the yellow LED flashes slowly.
- When you are done programming, to exit Program Mode press the **\*** key and the yellow LED stops flashing.
- If at any point you make a programming error (either press a wrong key or perform a command the unit does not recognize), the unit produces a program error by turning on the yellow LED solid. To clear a program error, simply press the **\*** key.

Throughout the programming section the last step is to exit Program Mode. If you are going to program multiple users or keypad options, you are not required to exit Program Mode after each command sequence. You may continue to the next programming option without exiting Program Mode. When all your programming is complete, you can then exit Program Mode by pressing the **\*** key.

**NOTE:** You may also access Program Mode using the Supervisor Code. See Section 2.1.2.

#### 2.1.1 Changing the Master Code

The default Master Code is 1234 and should be changed prior to performing any programming on the unit.

**To change the Master Code, use Command 1:**

1. Enter Program Mode  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. Program the new Master Code.  
Press: **1 # new Master Code \* repeat new Master Code \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode  
Press: **\***  
*The yellow LED stops flashing.*

If you forget the Master Code, remove the battery cover, disconnect the battery pack, connect the orange wire to the white wire, and then reconnect the battery pack. The unit will power up in Program Mode with the yellow LED flashing slowly.

## 2.1.2 Programming a Supervisor Code

User location #2 is reserved for the Supervisor Code. This user has access to only user programming commands and can't change other system related options and parameters.

### To program the Supervisor Code use, Command 2:

1. Enter Program Mode  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. Program the new Supervisor Code.  
Press: **2 # Supervisor Code \* repeat Supervisor Code \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode  
Press: **\***  
*The yellow LED stops flashing.*

## 2.1.3 Master Code and Supervisor Code Programming Access

The following is a list of programming commands that are available to Master Code and Supervisor Code users:

### Supervisor Code and Master Code Users Commands:

- Adding/Deleting users (Command 50)
- Setting/Clearing User Hold bit (Command 56)

### Master Code User Only Commands:

- Changing Relay Time (Command 11)
- Setting/Clearing Platform Options (Command 30)
- Changing Platform Parameters (Command 32)
- Restoring System Defaults (Command 40)
- Setting Propped Door Time (Command 44)
- Changing Forced Door Time (Command 45)
- Erasing User Table and Restoring Default Settings (which also deletes the Supervisor Code) (Command 46)

## 2.2 Programming Users

The following section describes in detail how to program users. The LS1 can store up to 120 users. Each user is stored in a separate location in the unit's memory. This is referred to as the user location. Codes can be from 1 to 6 digits in length in any combination.

If at any point while programming a code, you get a programming error (solid yellow LED), and you know you are entering the command correctly, make sure that the code is not already programmed. If you are unsure, try entering that code outside of Program Mode and see if you are granted access. If so, you must use a different code for that user.

**Note:** It is recommended that you keep a list of all the users you have programmed in the device, in case you need to modify or delete a particular user.

### 2.2.1 User Types

The table below identifies and describes the five user types supported by the LS1 unit. The user type number is used in programming commands in the subsequent sections where it indicates "user type."

**Table 5. User Types**

User Type Name	User Type Number	Description
Toggle User	0	Toggle users are used to latch the lock in the unlocked position for an indefinite period of time. Entering the same (or another) toggle code, re-locks the unit.
Normal Access	1	Normal access users are the default user type. This user type unlocks the door for the duration of the Lock Time set in Command 11.
Lockout	3	This user type, locks the keypad disallowing all other codes in a higher user location, plus the door remains in the current state. If it is locked, it remains locked. If it is unlocked, it remains unlocked until another Lockout code (or the same one) is entered, releasing it from Lockout mode.
Single Use Code	5	Single use users are allowed to gain access only once. After you enter this code the user is deleted from memory. To verify a single use code is still programmed enter <b>5 # code *</b> . This looks up the code and flashes the green LED for ½ second if it's still programmed. If it's not found the unit beeps 3 times quickly.
Emergency User	7	An Emergency user is a special user that can't be locked out by a user lockout code. This user can also unlock the door when the battery voltage is below low voltage inhibit threshold of 4.0 Volts.

### 2.2.2 Programming a User

A user gains access by entering their code on the keypad. Refer to Table 5 for details on user types. Codes can be from 1 to 6 digits in length in any combination.

#### To quick program users:

- Enter Program Mode  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
- Program the User.  
Press: **user type # user location # user code \* repeat user code \***  
*The yellow LED continues to flash slowly.*  
Repeat this step to program any additional user codes at this time.
- Exit Program Mode  
Press: **\***  
*The yellow LED stops flashing.*

### 2.2.3 Disabling Users

The LS1 has a feature that allows you to disable a user without deleting them from the system. Both the Master Code and Supervisor Code are allowed to disable users. The following is a list of actions that are not allowed.

- The Master Code can't be disabled
- The Master Code can disable the Supervisor Code
- The Supervisor Code can be disabled by the Master Code
- The Supervisor Code can't disable itself
- A disabled Supervisor Code can't access Program Mode

**To disable (or enable a previously disabled user), use Command 56:**

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. To Disable User.  
Press: **56 # 1 # user location # \* \***  
*The yellow LED continues to flash slowly.*  
To Enable User  
Press: **56 # 0 # user location # \* \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*

### 2.2.4 Deleting Users

To delete a user, you must know the user location for the user(s) you wish to delete.

**To delete a single user:**

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. Delete the User  
Press: **User location # \* \***  
To delete user 100, for example, press: **100 # \* \***  
*The yellow LED continues to flash slowly.*  
Repeat this step for additional users.
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*

## 2.3 Programming Lock Time Duration and Audio Alerts

The following section shows how to change the lock time duration as well as the propped door and forced door audio alerts.

### 2.3.1 Lock Time Duration

Setting the lock output time simultaneously sets the time for all normal access users (user Type 1). You can set the lock time in one-second increments from 1 second to 255 seconds. The default value is 5 seconds.

To change the Lock Time Duration, use Command 11:

1. Enter Program Mode.

Press: **99 # Master Code \***

*The yellow LED flashes slowly.*

2. Enter the new lock output time (1 to 255 seconds).

Press: **11 # time # 0 # \* \***

For example, to enter 10 seconds, press: **11 # 10 # 0 # \* \***

*The yellow LED continues to flash slowly.*

3. Exit Program Mode.

Press: **\***

*The yellow LED stops flashing.*

**DEFAULT**

**5**

**SECONDS**

### 2.3.2 Propped Door and Forced Door Audio Alerts

The LS1 is equipped with a local sounder, which is used for the Propped Door and Forced Door audio alerts. By default, these audio alerts are disabled. You have the option to enable them separately or enable them both.

To detect a propped door or forced door, a normally closed (closed when the door is shut) door position switch must be installed and wired to the WHITE and YELLOW wires in the LS1 battery compartment.

To ensure that a forced door audio alert **does not** occur when the door is opened from the secure side of the door (the side without the keypad), the Normally Open Request-To-Exit (REX) input of the LS1 **must** be closed prior to using the handle to open the door. The REX wires (BROWN and ORANGE) are located in the battery compartment. Either an external REX button, or an LS1 ordered with the -REX option installed (internal switch on the inside door handle connected to the brown and orange wires) must be used to prevent a forced door audio alert when the door is opened from the secure side.

To program the Propped Door and Forced Door Audio Alerts use Command 32, Option 2:

1. Enter Program Mode.

Press: **99 # Master Code \***

*The yellow LED flashes slowly.*

2. To Enable Forced Door audio alerts only press: **32 # 2 # 1 # \* \***

*The yellow LED continues to flash slowly.*

To Enable Propped Door audio alerts only press: **32 # 2 # 2 # \* \***

*The yellow LED continues to flash slowly.*

To Enable both Forced Door and Propped Door audio alerts press: **32 # 2 # 3 # \* \***

*The yellow LED continues to flash slowly.*

To Disable both audio alerts press: **32 # 2 # 0 # \* \***

*The yellow LED continues to flash slowly.*

3. Exit Program Mode.

Press: **\***

*The yellow LED stops flashing.*

**DEFAULT**

**DISABLED**

**SETTING**

### 2.3.3 Propped Door Audio Alert Delay Time

You can program the Propped Door Audio Alert Delay Time from 10 to 990 seconds in 10 second increments. The propped door audio alert triggers if the door position switch input is held closed (door open) longer than the time set. The audio alert turns off if you enter a valid code or close the door. The default value is 30 seconds.

**To change the Propped Door Audio Alert Delay Time, use Command 44:**

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. Enter the propped door audio alert delay time (time = 10 to 990 seconds).  
Press: **44 # time # 0 # \* \***  
For example, to enter 60 seconds, press: **44 # 60 # 0 # \* \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*

**DEFAULT**  
**30**  
**SECONDS**

### 2.3.4 Forced Door Audio Alert Expire Time

You can program the Forced Door Audio Alert Expire Time from 10 to 990 seconds in 10 second increments. The forced door audio alert triggers immediately if the door position switch input is closed (door open) without entering a valid code or activating the REX. It times out after the forced door time expires. Enter 00 in the time field to toggle the audio alert. The audio alert turns off when you enter a valid code or wait until the timer expires (when not set to toggle). The default value is 10 seconds.

**To change the Forced Door Audio Alert Expire Time, use Command 45:**

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. Enter the forced door audio alert expire time (time = 10 to 990 seconds).  
Press: **45 # time # 0 # \* \***  
For example, to enter 60 seconds, press: **45 # 60 # 0 # \* \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*

**DEFAULT**  
**10**  
**SECONDS**

## 2.4 Programming Keypad Options and Parameters

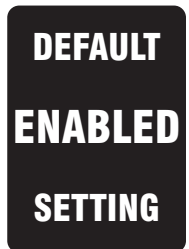
The following section details various keypad programming options.

### 2.4.1 Audio Keypress Feedback

Audio Keypress Feedback refers to the sounder beeping momentarily each time a key is pressed. This feedback indicates the key was pressed hard enough for the keypad to acknowledge and recognize which key you pressed. The default setting is enabled.

To enable or disable the Audio Keypress Feedback use Command 30, Option 0:

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. To disable this feature, press: **30 # 0 # 0 # \* \***  
*The yellow LED continues to flash slowly.*  
To enable this feature, press: **30 # 0 # 1 # \* \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode.  
Press: **\***  
The yellow LED stops flashing.

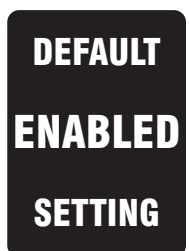


### 2.4.2 Visual Keypress Feedback

Visual Keypress Feedback refers to the yellow LED flashing momentarily each time a key is pressed. This feedback indicates the key was pressed hard enough for the keypad to acknowledge and recognize which key you pressed. The default setting is enabled.

To enable or disable the Visual Keypress Feedback use Command 30, Option 1:

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. To disable this feature, press: **30 # 1 # 0 # \* \***  
*The yellow LED continues to flash slowly.*  
To enable this feature, press: **30 # 1 # 1 # \* \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*



### 2.4.3 Auto-Entry

Auto-Entry is a feature that determines whether or not you need to press the \* key after entering your access code on the keypad. **By default, the feature is disabled** which means you are required to enter the \* key after your access code to gain entry. If you enable the feature you are not required to enter the \* key after entering your code to gain entry. This feature applies only to codes that are the same length as the Master Code. For example if the Master Code is four-digits, your user code must be four digits to use the auto-entry feature. All codes less than four digits require the \* key. Codes longer than the Master Code are not allowed, since you'll reach that number of digits prior to entering the \* key.

**Note:** When auto-entry is enabled you do not have to press the \* key after “99 # Master Code” to enter Program Mode.

To enable or disable Audio-Entry use Command 30, Option 2:

1. Enter Program Mode.

Press: **99 # Master Code \***

*The yellow LED flashes slowly.*

2. To enable this feature, press: **30 # 2 # 1 # \* \***

*The yellow LED continues to flash slowly.*

To disable this feature, press: **30 # 2 # 0 # \* \***

*The yellow LED continues to flash slowly.*

3. Exit Program Mode.

Press: **\***

*The yellow LED stops flashing.*

**DEFAULT  
DISABLED  
SETTING**

### 2.4.4 User Lockout

User lockout is used to lock down the unit so users cannot gain entrance through the door. If a locked out user attempts to gain access after a lockout code (user Type 3) is entered the unit indicates an access denied error condition.

The User Lockout option allows user codes to be assigned as a “Lockout” user (Type 3). When this type of code is entered, only codes in lower locations function; codes in higher locations do not function.

For example, if user 30 is a lockout user and they enter their code, users 31 to 120 will be denied access. Then, if after that, user 10 is a lockout user and they enter their code, users 11 to 120 will be denied access (including lockout user 30 who use to have access).

To remove the lockout, the same code that started the lockout can be entered again, or a lockout code in a lower position than the first lockout can be entered twice (once to change the first lockout code position, then a second time to clear the lockout).

The default setting is enabled.

**Note:** The Master Code, Supervisor Code, and Emergency Code users can't be locked out.

To enable or disable User Lockout use Command 30, Option 5:

1. Enter Program Mode.

Press: **99 # Master Code \***

*The yellow LED flashes slowly.*

2. To disable this feature, press: **30 # 5 # 0 # \* \***

*The yellow LED continues to flash slowly.*

To enable this feature, press: **30 # 5 # 1 # \* \***

*The yellow LED continues to flash slowly.*

3. Exit Program Mode.

Press: **\***

*The yellow LED stops flashing.*

**DEFAULT  
ENABLED  
SETTING**



## 2.4.5 Error Lockout

This feature refers to the number of invalid keypad attempts you can make before the keypad locks up. It's used to keep people from continually attempting to gain access to the door by entering various code combinations by trying to guess a code. Error Lockout is enabled by default.

This also applies to attempting to enter Program Mode by guessing the Master Code. As attempts are made, the unit maintains a count of the number of consecutive invalid attempts. When the number reaches the value programmed in the Error Lockout Threshold, the unit locks up for the amount of time programmed in the Error Lockout Duration.

When the unit locks up, the yellow LED remains on solid for five seconds and turns off. If error lockout is still active when the unit wakes up, the yellow LED remains on solid for an additional five seconds.

**To enable or disable Error Lockout use Command 30, Option 3:**

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. To disable this feature, press: **30 # 3 # 0 # \* \***  
*The yellow LED continues to flash slowly.*  
To enable this feature, press: **30 # 3 # 1 # \* \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*

**DEFAULT  
ENABLED  
SETTING**

### 2.4.5.a Error Lockout Threshold

The Error Lockout Threshold is the number attempts you can make before the unit locks up. The default value is 3 attempts.

There are a couple of ways to reset this count prior reaching the count limit. You can reset it by either entering a valid keypad code, entering a valid [**99 # Master code \***] sequence, or by the expiration of the keypad timer.

**To change the Error Lockout Threshold, use Command 32, Parameter 0:**

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. Enter the Error Lockout Threshold (value = 1 to 50; default = 3 attempts).  
Press: **32 # 0 # value # \* \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*

**DEFAULT  
3  
ATTEMPTS**

### 2.4.5.b Error Lockout Duration

The Error Lockout Duration is the amount of time the unit is locked out for when the Error Lockout Threshold is reached. The default value is 10 seconds.

To change the Error Lockout Duration, use Command 32, Parameter 1:

1. Enter Program Mode.

Press: **99 # Master Code \***

*The yellow LED flashes slowly.*

2. Enter the Error Lockout Duration  
(value = 1 to 255; set in 1 second increments; default = 10 seconds).

Press: **32 # 1 # value # \***

For example: To set for 30 seconds press **32 # 1 # 30 # \* \***

*The yellow LED continues to flash slowly.*

3. Exit Program Mode.

Press: **\***

*The yellow LED stops flashing.*



## 2.5 Erasing Memory

There are two methods for deleting programmed information from the LS1. The first method is using Command 40, which resets the system defaults and the Master Code only. The second method is through Command 46, which erases all the memory in the unit.

### 2.5.1 Resetting the Master Code and System Defaults Only

Entering Command 40 erases everything from the LS1 memory **except the user list** and restores the default settings. This is useful if the unit has experienced programming problems, or wish to delete earlier programming.

**To erase the memory, restore the defaults including the Master Code, but KEEP the user list, use Command 40:**

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. Enter the command to reset system defaults.  
Press: **40 # 00000 # 00000 # \* \***  
*The yellow LED continues to flash slowly.*
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*

### 2.5.2 Erasing Entire Memory and Resetting System Defaults

Entering Command 46 deletes everything from the LS1 memory **including the user list** and restores the default settings. This is used as a last resort if you need to erase a specific user but do not know the user location.

**To erase the memory, restore the defaults including the Master Code, and ERASE the user list, use Command 46:**

1. Enter Program Mode.  
Press: **99 # Master Code \***  
*The yellow LED flashes slowly.*
2. Enter the command to erase memory.  
Press: **46 # 00000 # 00000 # \* \***  
*The yellow LED flashes rapidly for several seconds until the memory is deleted.*
3. Exit Program Mode.  
Press: **\***  
*The yellow LED stops flashing.*

## 2.6 Programming Options Chart

The following chart is a complete list of programming commands available in the LS1. This chart is for quick reference. Please refer to the preceding sections for complete details of each command. Defaults are in **bold**.

**Table 6. Programming Commands**

Action Desired	Press	Details
Enter Program Mode	<b>99 # (Master Code) *</b>	Yellow LED flashes slowly
Change Master Code	<b>1 # (new code) * (repeat code) *</b> Ex: <b>1 # 4321 * 4321 *</b>	Default Master Code = 1234
Program Supervisor Code	<b>2 # (new code) * (repeat code) *</b>	No Default (empty)
Program User	<b>user type # user location # user code * repeat user code *</b>	<b>User Types:</b> 0 – Toggle 1 – Standard 3 – Lockout 5 – Single Use 7 – Emergency
Delete Single User	<b>user location # * *</b>	
Set lock time	<b>11 # time # 0 # * *</b>	Time =1-255 seconds ( <b>default = 5 seconds</b> )
Set/clear Keypad Options	<b>30 # Option # 0 or 1 # * *</b>	See Chart below
<b>Option</b>	<b>Set</b>	<b>Clear</b>
0 – Audio Keypress Feedback	<b>1 = Enabled</b>	0 = Disabled
1 – Visual Keypress Feedback	<b>1 = Enabled</b>	0 = Disabled
2 - Auto-Entry	1 = Enabled	<b>0 = Disabled</b>
3 – Error Lockout	<b>1 = Enabled</b>	0 = Disabled
5 – User Lockout Enable	<b>1 = Enabled</b>	0 = Disabled
Change Keypad Parameters	<b>32 # Parameter # value # * *</b>	See Chart Below
<b>Parameter</b>	<b>Value</b>	
0 – Error Lockout Threshold	1 – 50 Attempts ( <b>Default = 3</b> )	
1 – Error Lockout Duration	1-255 Sec. ( <b>Default = 10 Sec.</b> )	
2 – Propped Door and Forced Door Audio Alerts	0 = No Audio Alerts; 1 = Forced Door Alerts 2 = Propped Door Alerts; 3 = Forced & Propped Door Alerts	
Reset System Defaults Only	<b>40 # 00000 # 00000 # * *</b>	Does not delete users
Set Propped Door Time	<b>44 # time # 0 # * *</b>	Time = 10-990 seconds; ( <b>default=30 secs</b> )
Set Forced Door Time	<b>45 # time # 0 # * *</b>	Time = forced door time, to nearest 10's seconds, entered as 30-990; ( <b>default=10 secs</b> )
Delete Entire Memory and Reset System Defaults	<b>46 # 00000 # 00000 # * *</b>	Deletes all memory including users
Enable/Disable Users	<b>56 # enable/disable # user location # * *</b>	Enable = 0 Disable = 1



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