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# Access Control Keypad

## User Guide

For Helmer Horizon Series™ Products



# Document History

Revision	Date	CO	Supersession	Revision Description
A	25 MAR 2011	6489	n/a	Initial release.
B	13 JUL 2011	6897	B supersedes A	Redesigned rear cover page.
C	27 MAR 2012	7268	C supersedes B	Revised Helmer logo, clearly identified initial master access code.
D	22 NOV 2013*	8934	D supersedes C	Removed refernces to mechanical Access Control. Added references to magnetic Access Control.

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# About this User Guide

The Access Control Keypad user guide provides information about use of the optional keypad installed in Helmer Horizon Series™ products. For general use of Helmer equipment, refer to the operation and service manuals for the equipment on which the keypad is installed.

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# Chapter 1: Overview

The Access Control Keypad provides fail-secure digital keypad access. In the event of a power loss, the state of the magnetic lock does not change and the non-volatile memory ensures data is not lost. The keypad allows up to 100 individual user codes, which can be entered and deleted individually, or cleared all at once. Keypad options include: sound preferences, door open timer, and security responses for invalid code entry.

## Before Beginning

The Access Control Keypad was pre-programmed by Helmer at the factory. It was shipped with a preset master code (0000) that will be used initially to program the keypad and enter user access codes. The master code can also be used to release the door lock.

**Note:** There is a lock override key on Helmer equipment. The key disconnects power to the magnetic lock, allowing users to access the contents of the cabinet. A keyed mechanical lock is provided on the door to allow secure access if the magnetic lock is overridden. In the event of an AC power failure, the magnetic lock override key should be switched to the override position and the mechanical key lock should be used to provide secure access until AC power is restored.

- Refer to the operation manual for detailed instructions on using the Access Control lock under normal conditions and during an AC power failure.

## Initial Access

Prior to programming user codes in the Access Control Keypad, the master code can be used to release the door lock.

Release the Door Lock	Buttons
Enter the master code <b>Initial factory setting = 0000</b>	<b>&lt; 4 digit master code &gt; # 1</b>

**Note:** The master code should be changed to prevent unauthorized user code setup. The master code can not be deleted.

# Chapter 2: Keypad Basics

## The Master Code

The master code is used to enter programming mode. It can also be used to release the door lock (before other user codes have been entered). The master code must be entered before user codes can be added.

The default master code is 0000.

**Note:** The master code should be changed to prevent unauthorized user code setup. The master code can not be deleted.

**⚠ Caution:** *If the master code is lost, the door must be removed to reset the system. All codes and settings must be re-entered.*

1. Enter Programming Mode	Buttons
Enter the current master code	< 4 – 8 digit master code > *
2. Change the Master Code	Buttons
Initiate the change master code programming function	0
Enter the new master code	< New 4 – 8 digit master code > #
3. Exit Programming Mode	Buttons
Save changes and return to normal operation	*

➤ See “Chapter 3: Enter and Manage User Codes” for instructions in creating user access codes.

## Using the Keypad

Commands are entered directly into the keypad. If an entry was incorrect, cancel it by pressing the # key, or wait 10 seconds and retry.

Release the Door Lock	Buttons
Enter the user code	< 4 – 8 digit user code > #
<b>Note:</b> The door lock release timer controls how long the door remains unlocked before automatic re-lock occurs (see “Chapter 4: Keypad Options” to change the duration of the door lock release timer).	

## State and Activity Indicators

The red, yellow, and green LED lights at the top of the keypad show door lock state and keypad activity. Sound signals occur with keypad activity and door lock operation.

**Note:** Keypad activity and door lock sounds can be enabled or disabled.

➤ See “Chapter 4: Keypad Options, Sound Preferences” for instructions in setting sound indicators.

Door Lock State	LED Light Behavior	Sound Signals
Access Control door lock is operating	Green light = On	-
Access Control door lock is not operating (contact Helmer Technical Support)	Red light = On	-
Keypad Activity	Yellow Light Behavior	
Programming mode	On	-
Standby mode (system normal)	1 flash in 2 seconds	-
Valid code entry	2 flashes	2 beeps
Invalid code entry	5 flashes	5 beeps
Door lock released by valid user code entry	-	1-second beep

# Chapter 3: Enter and Manage User Codes

On first use of the Access Control Keypad (or after a reset procedure), user codes must be entered. User codes are changed, added, and deleted with simple commands. Up to 100 user codes can be programmed. A unique user code can not be assigned more than once.

**Note:** The Access Code Register sheet at the end of this user guide may be used to record user data.

## User Code Location Number

Each user code is stored in a specific addressed internal memory location (numbers 00–99). To delete a single user code, it is not necessary to know the user code number, however the location number must be known.

Each user code location number must be recorded. Keep a record of the location number with the user name.

## Valid User Codes

- Each user code must be a 4 – 8 digit number
- Digits can be repeated, for example: 2225
- A first digit limitation rule disallows two similar user codes (see “Chapter 5: Troubleshooting, First Digit Limitation Rule”)

## Add User Codes

1. Enter Programming Mode	Buttons
Enter the master code	< 4 – 8 digit master code > *
2. Assign the User Code to a Location	Buttons
Initiate the new user code programming function	1
Enter the location number (00 – 99)	< 00 – 99 >
Enter the user code	< 4 – 8 digit user code > #
3. Exit Programming Mode	Buttons
Save changes and return to normal operation	*

## Delete User Codes

1. Enter Programming Mode	Buttons
Enter the master code	< 4 – 8 digit master code > *
2. Delete a User Code from a Location	Buttons
Initiate the delete user code programming function	1
Enter the location number (00 – 99)	< 00 – 99 > #
3. Exit Programming Mode	Buttons
Save changes and return to normal operation	*

**Note:** To delete all user codes at once, perform a reset procedure (see “Chapter 5: Troubleshooting, Reset the System to Factory Settings”). The reset procedure will also clear keypad options, which must be re-entered. If a small number of user codes are to be deleted, it is recommended that they be deleted individually using the delete user command.



# Chapter 4: Keypad Options

On first use of the Access Control Keypad (or after a reset procedure), set the keypad options. Program commands directly into the keypad. Make continuous entries until complete. If an entry was incorrect, cancel it by pressing the # key, or wait 10 seconds and retry.

## Setting Keypad Functions

**Note:** Some, all, or none of the following procedures may be used when setting keypad functions.

<b>1. Enter Programming Mode</b>	<b>Buttons</b>
Enter the master code	< 4 – 8 digit master code > *
<b>2. Set the Door Lock Release Timer (optional)</b>	<b>Buttons</b>
<b>Initial factory setting = 10 seconds</b> Initiate the door lock release timer programming function Specify the timer duration, in seconds	<b>40</b> < 1 – 999 > #
<b>3. Set the Door Lock Release Sound (optional)</b>	<b>Buttons</b>
<b>1-second notification beep occurs with door lock release</b> Turn the door lock release beep <i>on</i>	<b>811 #</b>
<b>1-second beep is replaced by 2 short beeps</b> Turn the door lock release beep <i>off</i>	<b>810 #</b>
<b>4. Set the Keypad Activity Sound (optional)</b>	<b>Buttons</b>
Turn keypad activity sounds <i>on</i>	<b>831 #</b>
Turn keypad activity sounds <i>off</i>	<b>830 #</b>
<b>5. Set the Invalid Code Response(s) (optional)</b>	<b>Buttons</b>
<b>Note:</b> The keypad can be unlocked by entering the master code. Choose one, all, or none of the following security responses.	
<b>After 10 consecutive invalid code entries, the keypad locks for 30 seconds (initial factory setting)</b> Turn 30-second keypad lockout <i>on</i>	<b>70 #</b>
<b>After (5 – 10) consecutive invalid code entries, the keypad locks for 15 minutes</b> Turn 15-minute keypad lockout <i>on</i> Enter the number of consecutive invalid code entries before the keypad locks out	<b>72</b> < 5 – 10 > #
<b>Remove all invalid code responses</b> Initiate the invalid code response removal function	<b>7600 #</b>
<b>Note:</b> The keypad recognizes four digits as one code entry.	
<b>6. Exit Programming Mode</b>	<b>Buttons</b>
Save changes and return to normal operation	*

# Chapter 5: Troubleshooting

Problem	Indicator	Solution
System will not accept a user code.	<ul style="list-style-type: none"> <li>Yellow light: 5 flashes</li> <li>5 beeps</li> </ul>	Review first digit limitation rule (see below) to verify the code number does not violate the rule.
System will not accept a correct user code.	<ul style="list-style-type: none"> <li>Red light: On</li> </ul>	Electric lock has been inhibited. Contact Helmer Technical Support.
A correct user code entry does not unlock the door.	<ul style="list-style-type: none"> <li>Yellow light: 2 flashes</li> <li>2 beeps</li> </ul>	Keypad is locked. Use the master code to release keypad, or wait for security response to terminate, then retry.
Code entry unlocks door but will not allow programming.	-	Use correct master code.
-	<ul style="list-style-type: none"> <li>LED light and sound signals activate continuously.</li> </ul>	Contact Helmer Technical Service.

## Reset the System to Factory Settings

The Access Control Keypad was pre-programmed by Helmer at the factory. Use this reset procedure to clear all post-factory programming and return to the factory-originated condition. User codes and keypad options must be re-entered. Only the master code will be retained.

1. Enter Programming Mode	Buttons
Enter the master code	< 4 – 8 digit master code > *
2. Reset the System	Buttons
Enter the reset code	8901 #
3. Exit Programming Mode	Buttons
Save changes and return to normal operation	*

**Note:** The system takes three seconds to reset itself after the command code is entered. Do not enter any other codes until the reset procedure is complete (wait to hear two confirmation beeps).

## First Digit Limitation Rule

The first digit limitation rule is a programming security requirement that disallows two similar user codes. To determine which two codes are disallowed, use the example below.

### Example:

After entering the first user code, two subsequent user codes will have a  $\pm 2$  first digit limitation based on the **first digit** of the **first user code**.

If the first user code = 5678, using the first digit number:  $5 + 2 = 7$ , and  $5 - 2 = 3$ .

The following user codes would not be accepted by the keypad: 7678, and 3678 (only these two codes are disallowed).

# Chapter 6: Support and Other Information

## Contact Helmer Scientific

U.S. and Canada  
Technical Service            [service@helmerinc.com](mailto:service@helmerinc.com)  
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Outside U.S. and Canada  
Contact your distributor or [intlsales@helmerinc.com](mailto:intlsales@helmerinc.com)

## Restore Factory Settings

- See “Chapter 5: Troubleshooting, Reset System to Factory Settings”

## Operation and Service Manuals

**Note:** Refer to the CD shipped with the product. Manuals are also available at [www.helmerinc.com](http://www.helmerinc.com)





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