DS7400XiV4-EXP

Security Systems

EN

Wireless Reference Guide

Control Panel

BOSCH

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1.0 Introduction

1.1 Documentation Conventions

1.1.1 Type Styles Used

To help identify important items in the text, the following type styles are used:

Bold text	Indicates important text or terms that you should note.
Italicized text	Refers you to a drawing, table, or other section of this document.
[#][9][1]	Bracketed numbers represent keypad keys. When next to one another, they represent the key sequence to press for a particular function. For this example, pressing the [#] key followed by the [9] key and [1] key begins the keypad test function.

1.1.2 Notes, Cautions, and Warnings

Throughout this document there are important notes that address personal and/or equipment safety issues, system operation issues, and so on. They are set off as follows:

The Important Note identifies information intended for successful operation.

The Caution Note identifies information intended to prevent an incident that may prohibit the functionality of the program/equipment.

The Warning Note identifies information intended to prevent an incident that may prohibit the functionality of the program/equipment and/or personal injury.

1.2 Scope of Document

See below for an overview of this document and other documents related to the DS7400Xi Control Panel:

Table 1: Document Overview

Document	Part Number	Description
User's Guide	4998154961	Contains keypad operation instructions for the end-user. Covers use of the LCD (text) keypad and the LED keypad.
Reference Guide	4998154963	Contains all wiring and setup instructions, and programming parameters with descriptions. Troubleshooting information also included.
Wireless Reference Guide (this document)	4998154962	Contains all programming parameters related to the wireless devices that are compatible with the DS7400Xi Control Panel.
Release Notes	4998154798	Contains issues and features with the control panel that were found or added after printing of the documentation.

2.0 Programming the Control Panel

2.1 RF Receiver Setup

2.1.1 Address

Each DS7400Xi Control Panel can accept up to two receivers. The appropriate receiver address (#1 or #2) is selected at the receiver. The default setting is #1. Use Setting #1 if this is the only receiver on the control panel. Use Setting #2 if a second receiver is used. Refer to the receiver's documentation for configuration information.

2.1.2 Supervision

The receiver expects to receive periodic status from each installed transmitter, and reports to the control panel when it has not heard from a specific transmitter for the interval selected at the receiver (typically 12 or 4 hours). Refer to the receiver's documentation for configuration information.

2.2 Receiver Programming

2.2.1 Number of Receivers

- **Address:** 2731
- **Data Digits:**
  - Data Digit 1: ____ (refer to *Table 2*); default = 0
  - Data Digit 2: ____ (refer to *Table 3*); default = 0
- **Selections:** 0 to 9; *0 to *3 (hexadecimal values that display as A to D respectively at the keypads)

Program the control panel for the number of receivers used, and which zones are assigned to each receiver.

Data Digit 1 defines if there are 0, 1, or 2 receivers.

Data Digit 2 defines the zones covered by Receiver #1 and Receiver #2. If there is only one receiver, Data Digit 2 **must** be 0. If two receivers are programmed, Data Digit 2 should **not** be 0.

Do not program two receivers if you are not programming zones to both receivers. Also, do not install a second receiver without first programming it properly.

Table 2: Address 2731, Data Digit 1

Number of Receivers Options	Value
No Receiver	**0**
One Receiver	2
Two Receivers	4

Table 3: Address 2731, Data Digit 2

Select Option	Value
One receiver	**0**
Receiver #1 = Zones 137 to 144 Receiver #2 = Zones 145 to 248	1
Receiver #1 = Zones 137 to 152 Receiver #2 = Zones 153 to 248	2
Receiver #1 = Zones 137 to 160 Receiver #2 = Zones 161 to 248	3
Receiver #1 = Zones 137 to 168 Receiver #2 = Zones 169 to 248	4
Receiver #1 = Zones 137 to 176 Receiver #2 = Zones 177 to 248	5
Receiver #1 = Zones 137 to 184 Receiver #2 = Zones 185 to 248	6
Receiver #1 = Zones 137 to 192 Receiver #2 = Zones 193 to 248	7
Receiver #1 = Zones 137 to 200 Receiver #2 = Zones 201 to 248	8
Receiver #1 = Zones 137 to 208 Receiver #2 = Zones 209 to 248	9
Receiver #1 = Zones 137 to 216 Receiver #2 = Zones 217 to 248	*0
Receiver #1 = Zones 137 to 224 Receiver #2 = Zones 225 to 248	*1
Receiver #1 = Zones 137 to 232 Receiver #2 = Zones 233 to 248	*2
Receiver #1 = Zones 137 to 240 Receiver #2 = Zones 241 to 248	*3

2.2.2 RF Receiver Jam Detection Level

The Jam Detection Level determines the level of ambient RF noise at which a Jam Trouble is reported. A higher programmed value requires a higher noise level before a Jam Trouble is reported.

Adjusting this setting from its default value can severely degrade control panel performance. Do not adjust this setting without first contacting Bosch Technical Support.

Data Digit 1 configures the Jam Detection Level for Receiver 1, and Data Digit 2 configures the Jam Detection Level for Receiver 2.

- **Address:** 4039
- **Data Digits:**
  - Data Digit 1: ____ (default = 6)
  - Data Digit 2: ____ (default = 6)
- **Selections:** 0 to 9; *0 to *5 (hexadecimal values that display as A to F respectively at the keypads)

3.0 Adding Wireless Sensors/Contacts

Program all zones used by RF devices as RF zones before activating the wireless devices. This is accomplished by programming for an RF receiver in Address 2731. Refer to *Section 2.2 Receiver Programming.*

Perform the following procedure to install and program an RF (wireless) sensor or contact:

1. Program the control panel's RF zones.
   Programming a zone is a **four-step process**. These steps must be performed, **in order**, to program a zone:
   a. Program the Zone Functions (what the zone does in alarm). Refer to *Section 3.1 Program Zone Functions.*
   b. Assign a Zone Function to the zone. Refer to *Section 3.2 Assign a Zone Function to* the Zone.
   c. Assign a Zone Type to the zone. Refer to *Section 3.3 Assign a Zone Type to* the Zone.
   d. Assign the zone to a partition. Refer to *Section 3.4 Assign an Area (Partition) to* the Zone.

   These steps allow you to define the RF (wireless) zone's address (zone number), its type (**always a single input zone, selection 0**), which zone or output function it follows (1 to 30), and its area (partition; 1 to 8).
2. Install the RF Sensor(s) or Contact(s) according to its installation Instructions.
3. Program the RF Sensor(s) or Contact(s) (refer to *Section 6.0 Programming Wireless Devices*).
   - Add the RF zones.
   - Test the RF zones.

3.1 Program Zone Functions

A zone function is the description of how a zone behaves when an alarm occurs. Up to 30 different zone functions can be programmed. You can use the default values already programmed into the control panel and skip this step, or change the defaults, or add new zone functions. Refer to the *DS7400Xi-EXP Reference Guide (P/N: 4998154963)* for further details.

- The zone functions for **RF Sensors** must always be set for "Alarm on Short" and "Trouble on Open" (Options 4 to 7).
- The zone functions for **RF Contacts** must always be set for "Alarm on Short" and "Trouble on Open" when using the **Magnet Only** (Options 4 to 7).
- The Zone Functions for **RF Contacts** can be set for any appropriate value when using the **Input Loop Only** (options 0 to *5).

- **Addresses:** 0001 to 0030
- **Data Digit:**
  - Data Digit 1: ____ (refer to *Table 4*; refer to *Table 7* for defaults)
  - Data Digit 2: ____ (refer to *Table 5*; refer to *Table 7* for defaults)
- **Selections:** 0 to 7, *2 to *5 (hexadecimal values that display as C through F at the keypads)

Table 4: Zone Function Programming (Address 0001 to 0030, Data Digit 1)

	Selections for Data Digit 1															
Select Options	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	***0**	***1**	***2**	***3**	***4**	***5**
Invisible Alarm	•				•								•			
Silent Alarm		•				•								•		
Steady Alarm Output			•				•								•	
Pulsing Alarm Output				•				•								•
Alarm on Short	•	•	•	•	•	•	•	•								
Alarm on Open	•	•	•	•									•	•	•	•
Trouble on Open[1]					•	•	•	•								
Trouble on Short													•	•	•	•

[1] Only when disarmed. When armed, this becomes Alarm on Open or Short for non-24-hour zones.
NOTE: Multiplex contacts should not be programmed for Trouble on Open.

Table 5: Zone Function Programming (Address 0001 to 0030, Data Digit 2)

Select Options	Value	Select Options	Value
Interior Delayed	0	Day Monitor	8
Perimeter Instant	1	Keyswitch[2]	9
24-Hour	2	Fire Zone with Verification	*0
Entry/Exit Delay #1	3	Fire Zone without Verification	*1
Entry/Exit Delay #2	4	Waterflow	*2
Interior Entry/Exit Follower	5	Supervisory	*3
Interior Home/Away	6	Entry/Exit Delay Cancel 1	*4
Interior Instant	7	Entry/Exit Delay Cancel 2	*5

[2] If Data Digit 2 = 9 (keyswitch), refer to *Table 6* to determine the value for Data Digit 1.

Table 6: Address 0001 to 0030, Data Digit 1, if Data Digit 2 = 9

Select Options	Value
Single Partition – No Force Arm	0
Single Partition – Can Force Arm	1
All Partitions – No Force Arm	2
All Partitions – Can Force Arm	3

Table 7: Address 0001 to 0030 Default Values

Value (fill in)	Zone Function	Address	Default Values (forced to different values when in Commercial Fire Mode; refer to the *DS7400Xi-EXP Reference Guide (P/N: 4998154963)* for further details.)
	1	0001	2 = Steady alarm output, alarm on short and open. 3 = Entry/exit delay 1.
	2	0002	2 = Steady alarm output, alarm on short and open. 4 = Entry/exit delay 2.
	3	0003	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	4	0004	2 = Steady alarm output, alarm on short and open. 5 = Interior entry/exit follower.
	5	0005	2 = Steady alarm output, alarm on short and open. 6 = Interior home/away.
	6	0006	2 = Steady alarm output, alarm on short and open. 7 = Interior Instant.
	7	0007	2 = Steady alarm output, alarm on short and open. 2 = 24-Hour.
	8	0008	7 = Pulsing alarm output, alarm on short, trouble on open. 3 = Entry/exit delay 1.
	9	0009	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	10	0010	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	11	0011	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	12	0012	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	13	0013	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	14	0014	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	15	0015	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.
	16 to 30	0016 to 0030	2 = Steady alarm output, alarm on short and open. 1 = Perimeter Instant.

NOTE: An open loop always produces a steady alarm response.

3.2 Assign a Zone Function to the Zone

Assign a zone function to a zone. For example, if you want Zone 137 to be an Entry/Exit 2 zone that produces a steady alarm output on short or open conditions, enter "2" in Data Digit 1, and "3" in Data Digit 2.

- **Addresses:** 0167 to 0278
- **Data Digits:**
  - Refer to the first column of *Table 7* for zone functions; refer to *Table 8* for defaults.
- **Selections:** 00 (zone disabled), or 01 to 30. Refer to the first column of *Table 7* for the pre-defined zone functions.

Table 8: Address 0031 to 0278 Default Values

Zone Number	Address	Zone Function Default
137	0167	00
138	0168	00
139	0169	00
140	0170	00
141	0171	00
142	0172	00
143	0173	00
144	0174	00
145 to 248	0175 to 0278	00

HINT: Address = Zone Number + 30

3.3 Assign a Zone Type to the Zone

Assign a zone type to the zone.

For RF sensors/contacts, enter "0" for the zone type. For RF keyfobs, enter a "5" for the zone type. The zone type for odd numbered zones is programmed in the first data digit of these addresses. The zone type for even numbered zones is programmed in the second data digit of these addresses. Refer to *Table 11* for zone numbers and addresses.

For example, if Zones 137 and 138 are both RF sensors/contacts, enter a "0" in Data Digit 1 and Data Digit 2.

- **Addresses:** 0483 to 0538
- **Data Digit:**
  - Data Digit 1: ____ (refer to *Table 9*)
  - Data Digit 2: ____ (refer to *Table 10*)
- **Selections:** 0 or 5

Table 9: Address 0483 to 0538, Data Digit 1 (Odd-Numbered Zones)

Select Option	Value
RF Sensors/Contacts	0
RF Keyfobs	5

Table 10: Address 0483 to 0538, Data Digit 2 (Even-Numbered Zones)

Select Option	Value
RF Sensors/Contacts	0
RF Keyfobs	5

Table 11: Address 0483 to 0538, Zone-to-Address Cross Reference

Zones	Address	Zones	Address	Zones	Address
Zones 137 & 138	0483	Zones 175 & 176	0502	Zones 213 & 214	0521
Zones 139 & 140	0484	Zones 177 & 178	0503	Zones 215 & 216	0522
Zones 141 & 142	0485	Zones 179 & 180	0504	Zones 217 & 218	0523
Zones 143 & 144	0486	Zones 181 & 182	0505	Zones 219 & 220	0524
Zones 145 & 146	0487	Zones 183 & 184	0506	Zones 221 & 222	0525
Zones 147 & 148	0488	Zones 185 & 186	0507	Zones 223 & 224	0526
Zones 149 & 150	0489	Zones 187 & 188	0508	Zones 225 & 226	0527
Zones 151 & 152	0490	Zones 189 & 190	0509	Zones 227 & 228	0528
Zones 153 & 154	0491	Zones 191 & 192	0510	Zones 229 & 230	0529
Zones 155 & 156	0492	Zones 193 & 194	0511	Zones 231 & 232	0530
Zones 157 & 158	0493	Zones 195 & 196	0512	Zones 233 & 234	0531
Zones 159 & 160	0494	Zones 197 & 198	0513	Zones 235 & 236	0532
Zones 161 & 162	0495	Zones 199 & 200	0514	Zones 237 & 238	0533
Zones 163 & 164	0496	Zones 201 & 202	0515	Zones 239 & 240	0534
Zones 165 & 166	0497	Zones 203 & 204	0516	Zones 241 & 242	0535
Zones 167 & 168	0498	Zones 205 & 206	0517	Zones 243 & 244	0536
Zones 169 & 170	0499	Zones 207 & 208	0518	Zones 245 & 246	0537
Zones 171 & 172	0500	Zones 209 & 210	0519	Zones 247 & 248	0538
Zones 173 & 174	0501	Zones 211 & 212	0520		

NOTE: When using premises RF: **1)** Zones 129 through 136 are reserved, and **2)** Zones 137 through 248 are available as RF zones **only**. Wired zones cannot reside in zones 137 through 248 when using RF.

3.4 Assign an Area (Partition) to the Zone

Each zone is assigned to an area. By default, all zones are assigned to Area 1.

The area assignment for odd numbered zones is programmed in the first data digit of these addresses. The area assignment for even numbered zones is programmed in the second data digit of these addresses.

For example, to assign Zone 137 to Area 1 and Zone 138 to Area 2, program Address 0355 as 01.

Refer to *Table 13* to determine which zones apply to each program address.

- **Addresses:** 0355 to 0410
- **Data Digits:**
  - Data Digit 1: ____ (refer to *Table 12*; default = 0; applies to odd-numbered zones)
  - Data Digit 2: ____ (refer to *Table 12*; default = 0; applies to even-numbered zones)
- **Selections:** 0 to 7

Table 12: Address 0355 to 0410, Data Digits 1 & 2

Select Option	Value
Belongs to Partition 1	**0**
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7

Table 13: Address 0355 to 0410, Zone-to-Address Cross Reference

Zones	Address	Zones	Address	Zones	Address
Zones 137 & 138	0355	Zones 175 & 176	0374	Zones 213 & 214	0393
Zones 139 & 140	0356	Zones 177 & 178	0375	Zones 215 & 216	0394
Zones 141 & 142	0357	Zones 179 & 180	0376	Zones 217 & 218	0395
Zones 143 & 144	0358	Zones 181 & 182	0377	Zones 219 & 220	0396
Zones 145 & 146	0359	Zones 183 & 184	0378	Zones 221 & 222	0397
Zones 147 & 148	0360	Zones 185 & 186	0379	Zones 223 & 224	0398
Zones 149 & 150	0361	Zones 187 & 188	0380	Zones 225 & 226	0399
Zones 151 & 152	0362	Zones 189 & 190	0381	Zones 227 & 228	0400
Zones 153 & 154	0363	Zones 191 & 192	0382	Zones 229 & 230	0401
Zones 155 & 156	0364	Zones 193 & 194	0383	Zones 231 & 232	0402
Zones 157 & 158	0365	Zones 195 & 196	0384	Zones 233 & 234	0403
Zones 159 & 160	0366	Zones 197 & 198	0385	Zones 235 & 236	0404
Zones 161 & 162	0367	Zones 199 & 200	0386	Zones 237 & 238	0405
Zones 163 & 164	0368	Zones 201 & 202	0387	Zones 239 & 240	0406
Zones 165 & 166	0369	Zones 203 & 204	0388	Zones 241 & 242	0407
Zones 167 & 168	0370	Zones 205 & 206	0389	Zones 243 & 244	0408
Zones 169 & 170	0371	Zones 207 & 208	0390	Zones 245 & 246	0409
Zones 171 & 172	0372	Zones 209 & 210	0391	Zones 247 & 248	0410
Zones 173 & 174	0373	Zones 211 & 212	0392		

4.0 Adding RF3341 Keypads

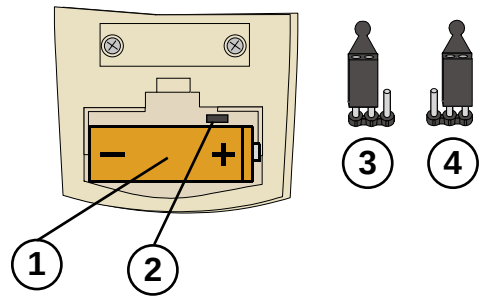
If using wireless keypads, observe the following:

- There must be at least one **wired** keypad in the system.
- If only one wired keypad is used, it must be Keypad #1.
- Wireless keypads must not be assigned as master keypads.
- The system supports up to five wireless keypads.
- Wireless keypads can only be assigned as Keypads 1 to 5.
- Both a wired and a wireless keypad can be assigned to the same address.
- If both a wired and a wireless keypad are assigned to the same address, select the option for the appropriate wired keypad in Addresses 3131 to 3133.
- If a wireless keypad without a wired counterpart is desired, program the data digit as 0 (Disabled).
- Wireless keypads can be assigned to any area.

4.1 Set RF Keypad Supervision

If the control panel supervises the keypad, set the Supervision Jumper to ON. See *Figure 1*. Select **ON** (**Supervised**) only if the keypad will **always** be in radio range of the control panel receivers. If the keypad is moved beyond the range of the receivers, a keypad fault condition appears on the wired keypads. Select **OFF** (**Unsupervised**) if the keypad will be removed from the premises.

Figure 1: Supervision Jumper



1 - 3 V battery
2 - Supervision Jumper
3 - Off position
4 - On position

4.2 Assign Keypad Type

Keypad type is either wired or wireless. If both a wired and a wireless keypad are sharing an address, program the data digit for the wired keypad type.

Data Digit 1 defines the first keypad in the address.
Data Digit 2 defines the second keypad in the address.

- **Addresses:** 3131 to 3138
- **Data Digit:** Refer to *Table 14*.
- **Defaults:** Refer to *Table 14*. If using only one keypad, the default is an Alpha keypad belonging to Area 1. Otherwise, the default is 0.
- **Selections:** 0 to 3 (refer to *Table 15*)

Table 14: Address 3131 to 3138 Keypad Assignment Programming

Address	Data Digit	Keypad	Default	Assigned Value	Address	Data Digit	Keypad	Default	Assigned Value
3131	1	1	1	❒	3135	1[1]	9	0	❒
	2	2	0	❒		2[1]	10	0	❒
3132	1	3	0	❒	3136	1[1]	11	0	❒
	2	4	0	❒		2[1]	12	0	❒
3133	1	5	0	❒	3137	1[1]	13	0	❒
	2[1]	6	0	❒		2[1]	14	0	❒
3134	1[1]	7	0	❒	3138	1[1]	15	0	❒
	2[1]	8	0	❒		2[1]	**Must = 0**		0

[1] Not available for wireless keypads.

Table 15: Keypad Type (Addresses 3131 to 3138)

Select Options	0	1	2	3
Disabled or Wireless Only Keypad	•			
Alpha (LCD) Keypad		•		•
LED Keypad			•	
Master Keypad[2]				•

[2] Wireless keypads must not be assigned as master keypads.

4.3 Assign Keypad Area

Keypad Area Assignment is where both wired and wireless keypads are assigned to an area. Wireless keypads can only be assigned as Keypads 1 to 5. Wireless keypads can be assigned to any area.

Data Digit 1 defines the first keypad in the address. **Data Digit 2** defines the second keypad in the address.

- **Addresses:** 3139 to 3146
- **Data Digit:** Refer to *Table 16*
- **Default:** 0
- **Selections:** Refer to *Table 17*

Table 16: Address 3139 to 3146 Keypad Partition Assignment

Address	Data Digit	Keypad	Default	Assigned Value	Address	Data Digit	Keypad	Default	Assigned Value
3139	1	1	0	❒	3143	1[1]	9	0	❒
	2	2	0	❒		2[1]	10	0	❒
3140	1	3	0	❒	3144	1[1]	11	0	❒
	2	4	0	❒		2[1]	12	0	❒
3141	1	5	0	❒	3145	1[1]	13	0	❒
	2[1]	6	0	❒		2[1]	14	0	❒
3142	1[1]	7	0	❒	3146	1[1]	15	0	❒
	2[1]	8	0	❒		2[1]	**Must = 0**		0

[1] Not available for wireless keypads.

Table 17: Address 3139 to 3146 Keypad Partition Assignment Selections

Select Option	Value
Belongs to Partition 1	**0**
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7

4.4 Program Wireless Keypads

Once the Keypad Assignment Programming (Addresses 3131 to 3138) and Keypad Area Assignment Programming (Addresses 3139 to 3146) is complete, program the wireless keypads into the system. The keypads appear as Zones 130 (for Keypad #1) through Zone 134 (for Keypad #5). Refer to *Section 6.0 Programming Wireless Devices* for programming the keypads.

4.5 Program Wireless Keypad A, B, and C Keys (Optional)

The A, B and C keys are only operational if programmed in your control panel. Programming Addresses 3147 and 3148 allow you to disable or enable the A, B, and C keys on the keypad for silent, pulsed, or steady alarm. Refer to *Emergency Key Programming: Program Addresses 3147-3148* in your *DS7400Xi-EXP Reference Guide (P/N: 4998154963)* for more information.

- **Addresses:** 3147 to 3148
- **Data Digit:**
  - Address 3147, Data Digit 1: ____ (refer to *Table 18*; default = 0)
  - Address 3147, Data Digit 2: ____ (refer to *Table 19;* default = 0)
  - Address 3148, Data Digit 1: ____ (refer to *Table 20*; default = 0)
  - Address 3148, Data Digit 2: **Must = 0**
- **Default:** 0
- **Selections:** 0 to 3

Table 18: Address 3147 Data Digit 1, Fire Key A Selections

Select Option	Value
Fire Key Disabled	**0**
Fire Key = Disabled	1
Fire Key = Steady Alarm	2
Fire Key = Pulsed Alarm	3

This setting can be forced to a different value when the control panel is in Commercial Fire Mode. Refer to the *DS7400Xi-EXP Reference Guide (P/N: 4998154963)* for further details.

Table 19: Address 3147 Data Digit 2, Emergency Key B Selections

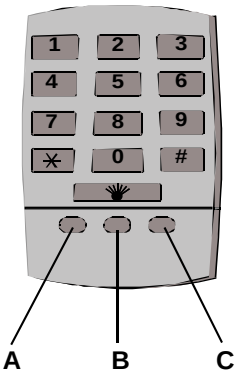
Select Option	Value
Special Emergency Key Disabled	**0**
Special Emergency Key = Silent Alarm	1
Special Emergency Key = Steady Alarm	2
Special Emergency Key = Pulsed Alarm	3

Table 20: Address 3148 Data Digit 1, Panic Key C Selections

Select Option	Value
Panic Key Disabled	**0**
Panic Key = Silent Alarm	1
Panic Key = Steady Alarm	2
Panic Key = Pulsed Alarm	3

This setting can be forced to a different value when the control panel is in Commercial Fire Mode. Refer to the *DS7400Xi-EXP Reference Guide (P/N: 4998154963)* for further details.

Figure 2: Emergency Keys



4.6 Program the On-Board Outputs (Optional)

The operation of the Option Key is the same on all keypads that are assigned to the same area.

The RF3341 Keypad has an Option key that can be programmed to drive any of the control panel's three outputs, or any of the 24 custom programmable outputs. Refer to *Table 22*.

- **Addresses:** 2734 to 2736
- **Data Digits:**
  - Data Digit 1: **Must = *0** for outputs driven by a wireless keypad
  - Data Digit 2: ____ (refer to *Table 21*)
- **Selections:** 0 to 9; *0, *1, *3 (hexadecimal values that display as A , B, and D respectively at the keypads)

Table 21: Address 2734 to 2736, Data Digit 2 When Data Digit 1 = *0

Options	RF3341	Value
Disabled		0
Momentary	Option Key	1
Toggle	Option Key	2

Table 22: Address 2734 to 2736 Defaults

Output	Address	Default
Alarm	2734	6 3
Programmable Output 1	2735	3 3
Programmable Output 2	2736	2 3

4.7 On-Board Output Area Assignment and Chirp Control (Optional)

On-board outputs can be assigned to follow the Option Key in one or all areas in the Output Area Assignment Addresses 2737 to 2738.

On-board outputs can also be programmed to "chirp" (a 1/2 second sounder output when the controlpanel is armed, or two 1/2 second sounder outputs when the control panel is disarmed).

- **Addresses:** 2737 to 2738
- **Data Digits:**
  - Data Digit 1: ____ (refer to *Table 23*; refer to *Table 25* for defaults)
  - Data Digit 2: ____ (refer to *Table 23* for Address 2737 Data Digits 1 and 2; refer to *Table 23* for Address 2738 Data Digit 1 and *Table 24* for Address 2738 Data Digit 2; refer to *Table 25* for defaults)
- **Selections:** 0 to 8

Table 23: Address 2737 to 2738, Data Digit 1, and Address 2737 Data Digit 2

Select Option	Value
Belongs to Partition 1	0
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7
Follows all Partitions	**8**

Table 24: Address 2738, Data Digit 2

Chirp Options	Value
Chirp Disabled	**0**
Bell Output	1
Programmable Output 1	2
Programmable Output 2	3

Table 25: Address 2734 to 2738 On-Board Output Defaults

Output	Address	Default
Alarm	2737 DD1	8
Programmable Output 1	2737 DD2	8
Programmable Output 2	2738 DD1	8

4.8 Program Output Functions to Follow the Wireless Keypad Option Key (Optional)

Output functions can be assigned to off-board devices, multiplex (MUX) devices, and so on. Refer to *Table 27* for output function numbers and program addresses.

- **Addresses:** 2772 to 2841
- **Data Digits:**
  - Data Digit 1: **Must = *0** to follow wireless keypad option key
  - Data Digit 2: ____ (refer to *Table 26*)
- **Selections:** 0 to 2, *0 (hexadecimal value that displays as "A" at the keypads)

Table 26: Output Function to Follow the Wireless Keypad, Data Digit 2

Options	RF3341	Value
Disabled		0
Momentary	Option Key	1
Toggle	Option Key	2

Table 27: Output Functions and Program Addresses

Output Function	Program Address 1
1	2772
2	2775
3	2778
4	2781
5	2784
6	2787
7	2790
8	2793
9	2796
10	2799
11	2802
12	2805
13	2808
14	2811
15	2814
16	2817
17	2820
18	2823
19	2826
20	2829
21	2832
22	2835
23	2838
24	2841

5.0 Adding Keyfobs

Keyfobs are zone inputs. They do not require keypad assignment programming.

If the system is using two receivers, please note the following: Because keyfobs are assigned to a zone and zones are assigned to a receiver, the coverage of the keyfob is limited to the assigned receiver.

Each RF3332/RF3332E (2-Button) or RF3334/RF3334E (4-Button) Keyfob occupies 1 RF zone. It is possible to have up to 112 keyfobs on a system. The RF3334/RF3334E Keyfob can also operate programmed outputs.

5.1 Assign a Zone Type

The zone type for odd numbered zones is programmed in the first data digit of these addresses. The zone type for even numbered zones is programmed in the second data digit of these addresses. Refer to *Table 30* for zone and address cross reference.

- Each zone that is used for a keyfob must be programmed as Zone Type 5.
- Each keyfob must be assigned to a zone.
- **Data Digit 1** and/or Data **Digit 2** must be set to 5.

Any zones used by RF devices must be programmed as RF zones before the wireless devices can be activated. This is done by programming for an RF receiver in Address 2731. Refer to *Section 2.2 Receiver Programming.* Refer to the *DS7400Xi-EXP Reference Guide (P/N: 4998154963)* for more information.

- **Addresses:** 0483 to 0538
- **Data Digit:**
  - Data Digit 1: ____ (refer to *Table 28*)
  - Data Digit 2: ____ (refer to *Table 29*)
- **Selections:** 0 or 5

Table 28: Address 0483 to 0538, Data Digit 1 (Odd-Numbered Zones)

Select Option	Value
RF Sensors/Contacts	0
RF Keyfobs	5

Table 29: Address 0483 to 0538, Data Digit 2 (Even-Numbered Zones)

Select Option	Value
RF Sensors/Contacts	0
RF Keyfobs	5

Table 30: Address 0483 to 0538, Zone-to-Address Cross Reference

Zones	Address	Zones	Address	Zones	Address
Zones 137 & 138	0483	Zones 175 & 176	0502	Zones 213 & 214	0521
Zones 139 & 140	0484	Zones 177 & 178	0503	Zones 215 & 216	0522
Zones 141 & 142	0485	Zones 179 & 180	0504	Zones 217 & 218	0523
Zones 143 & 144	0486	Zones 181 & 182	0505	Zones 219 & 220	0524
Zones 145 & 146	0487	Zones 183 & 184	0506	Zones 221 & 222	0525
Zones 147 & 148	0488	Zones 185 & 186	0507	Zones 223 & 224	0526
Zones 149 & 150	0489	Zones 187 & 188	0508	Zones 225 & 226	0527
Zones 151 & 152	0490	Zones 189 & 190	0509	Zones 227 & 228	0528
Zones 153 & 154	0491	Zones 191 & 192	0510	Zones 229 & 230	0529
Zones 155 & 156	0492	Zones 193 & 194	0511	Zones 231 & 232	0530
Zones 157 & 158	0493	Zones 195 & 196	0512	Zones 233 & 234	0531
Zones 159 & 160	0494	Zones 197 & 198	0513	Zones 235 & 236	0532
Zones 161 & 162	0495	Zones 199 & 200	0514	Zones 237 & 238	0533
Zones 163 & 164	0496	Zones 201 & 202	0515	Zones 239 & 240	0534
Zones 165 & 166	0497	Zones 203 & 204	0516	Zones 241 & 242	0535
Zones 167 & 168	0498	Zones 205 & 206	0517	Zones 243 & 244	0536
Zones 169 & 170	0499	Zones 207 & 208	0518	Zones 245 & 246	0537
Zones 171 & 172	0500	Zones 209 & 210	0519	Zones 247 & 248	0538
Zones 173 & 174	0501	Zones 211 & 212	0520		

5.2 Program a Zone

Zone Programming (Program Addresses 0167 to 0278) is different when programming keyfobs. Data Digit 1 is always 0, and Data Digit 2 can only be 1, 2, 3, or 4.

Keyfob function programming starts at Program Address 0167.

Hint: Zone number + 30 = The Program Address (for example: Zone 137 + 30 = Program Address 0167)

- **Addresses:** 0167 to 0278
- **Data Digit:**
  - Data Digit 1: **Must = 0**
  - Data Digit 2: ____ (refer to *Table 31*)
- **Selections:** 0 to 4

Table 31: Zone Programming (Addresses 0167 to 0278, Data Digit 2)

	Selections for Data Digit 2			
Select Options	**1**	**2**	**3**	**4**
Single Partition No Force Arming Allowed	•			
Single Partition Force Arming is Allowed		•		
All Partitions No Force Arming Allowed			•	
All Partitions Force Arming is Allowed				•

5.3 Assign Keyfobs to an Area

Each keyfob must be assigned to one or all areas. If one of the "All Partitions" options was selected for the zone (refer to *Section 5.2 Program a Zone*), you do not need to assign an area to the zone.

The area assignment for odd numbered zones is programmed into the first data digit of these addresses. The area assignment for even numbered zones is programmed into the second data digit.

For partition assignment addresses, refer to *Section 3.4 Assign an Area (Partition) to the Zone* of this Guide, or refer to the *DS7400Xi-EXP Reference Guide (P/N: 4998154963)*.

- **Addresses:** 0355 to 0410
- **Data Digits:**
  - Data Digit 1: ____ (refer to *Table 32*; default = 0; applies to odd-numbered zones)
  - Data Digit 2: ____ (refer to *Table 32*; default = 0; applies to even-numbered zones)
- **Selections:** 0 to 7

Table 32: Assigning Keyfobs to a Partition (Address 0355 to 0410, Data Digits 1 & 2)

Select Option	Value
Belongs to Partition 1	**0**
Belongs to Partition 2	1
Belongs to Partition 3	2
Belongs to Partition 4	3
Belongs to Partition 5	4
Belongs to Partition 6	5
Belongs to Partition 7	6
Belongs to Partition 8	7

5.4 Program Wireless Keyfobs

When the Keyfob Zone Programming (Addresses 0167-0278) and Keyfob Partition Assignment Programming (Addresses 0355 to 0410) is completed, the wireless keyfobs can be programmed into the system. Refer to *Section 6.0 Devices for* programming the keyfobs.

5.5 Program the Wireless Keyfob Panic Function (Optional)

The Panic function only operates if programmed in the control panel. Programming Address 3148 ("C" key) allows you to disable or enable the Panic key on the keyfob for silent, pulsed, or steady alarm. Refer to *Emergency Key Programming: Program Addresses 3147-3148* in the *DS7400Xi-EXP Reference Guide (P/N: 4998154963)* for more information.

If the control panel is set for Commercial Fire Mode, the values for the Panic Key might be forced to different values. For more information, refer to *Commercial Fire Mode Programming: Program Address 2733* in the *DS7400Xi-EXP Reference Guide (P/N: 4998154963)*.

- **Address:** 3148
- **Data Digit:**
  - Address 3148, Data Digit 1: ____ (refer to *Table 33*; default = 0)
  - Address 3148, Data Digit 2: **Must be 0**
- **Default:** 0
- **Selections:** 0 to 3

Table 33: Panic Key C Selections (Address 3148 Data Digit 1)

Select Option	Value
Panic Key Disabled	**0**
Panic Key = Silent Alarm	1
Panic Key = Steady Alarm	2
Panic Key = Pulsed Alarm	3

5.6 Program On-Board Outputs for the RF3334/RF3334E Keyfob (Optional)

The RF3334/RF3334E Keyfob has two key outputs which you can program to drive the control panel's on-board outputs. Use either key to drive any of the three on-board outputs, or any of the 24 custom programmable outputs.

The operation of the Option key is the same on all keypads and keyfobs if they are assigned to the same area.

- **Addresses:** 2734 to 2736
- **Data Digits:**
  - Data Digit 1: **Must = *0** for wireless keyfob outputs (refer to *Table 35* for default values)
  - Data Digit 2: ____ (refer to *Table 34* for options; refer to *Table 35* for default values)
- **Selections:** 0 to 4

Table 34: Programming On-Board Keyfob Outputs (Address 2734 to 2736, Data Digit 2 When Data Digit 1 = *0)

Options	RF3334/RF3334E	Value
Disabled		0
Momentary	Option Key	1
Toggle	Option Key	2
Momentary	Auxiliary Key	3
Toggle	Auxiliary Key	4

Table 35: Address 2734 to 2736 Defaults

Output	Address	Default
Alarm	2734	6 3
Programmable Output 1	2735	3 3
Programmable Output 2	2736	2 3

5.7 On-Board Output Area (Partition) Assignment and Chirp Control (Optional)

You can assign outputs to follow the Option Key in one or all areas in the Output Area Assignment Addresses 2737 and 2738. You can also program outputs to "chirp" (a ½-second sounder output when the control panel is armed, or two ½-second sounder outputs when the control panel is disarmed).

- **Addresses:** 2737 to 2738
- **Data Digits:**
  - Data Digit 1: ____ (refer to *Table 36*; refer to *Table 38* for defaults)
  - Data Digit 2: ____ (refer to *Table 36* for Address 2737 and *Table 37* for Address 2738; refer to *Table 38* for defaults)
- **Selections:** 0 to 8

Table 36: Address 2737 to 2738, Data Digit 1, and Address 2737 Data Digit 2

Select Option	Value
Belongs to Area 1	0
Belongs to Area 2	1
Belongs to Area 3	2
Belongs to Area 4	3
Belongs to Area 5	4
Belongs to Area 6	5
Belongs to Area 7	6
Belongs to Area 8	7
Follows all Areas	**8**

Table 37: Address 2738, Data Digit 2

Keyfob Chirp Options	Value
Chirp Disabled	**0**
Bell Output	1
Programmable Output 1	2
Programmable Output 2	3

Table 38: Address 2734 to 2738 Defaults

Output	Address	Default
Alarm	2737 DD1	8
Programmable Output 1	2737 DD2	8
Programmable Output 2	2738 DD1	8
Keyfob Chirp Options	2738 DD2	0

5.8 Program Output Functions to Follow the Keyfob Output Buttons (Optional)

You can assign output functions to off-board devices, multiplex (MUX) devices, and so on. Refer to *Table 40* for output function numbers and Program Addresses.

- **Addresses:** 2772 to 2841
- **Data Digit:**
  - Data Digit 1: **Must = *0** to follow wireless keyfob output buttons
  - Data Digit 2: ____ (refer to *Table 39*)
- **Selections:** 0 to 4

Table 39: Output Function to Follow Wireless Keyfob Output Buttons, Data Digit 2

Select Option	RF3334/RF3334E	Selections for Data Digit 2
Disabled		0
Momentary	Option Key	1
Toggle	Option Key	2
Momentary	Auxiliary Key	3
Toggle	Auxiliary Key	4

Table 40: Output Functions and Program Addresses

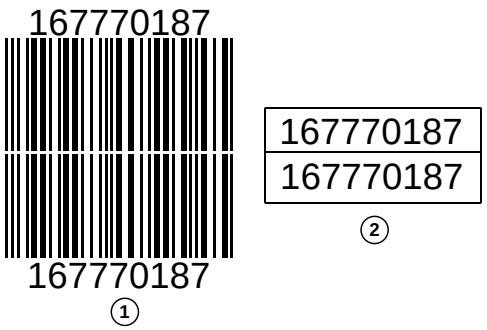
Output Function	Program Address 1
1	2772
2	2775
3	2778
4	2781
5	2784
6	2787
7	2790
8	2793
9	2796
10	2799
11	2802
12	2805
13	2808
14	2811
15	2814
16	2817
17	2820
18	2823
19	2826
20	2829
21	2832
22	2835
23	2838
24	2841

6.0 Programming Wireless Devices

All wireless RF devices (keypads, keyfobs, PIRs, smoke detectors, and contact points) must be programmed into the control panel before they are recognized.

Each wireless device has a unique ID code attached to the device in the form of a two-part bar code sticker or a number set. See *Figure 3*.

Figure 3: Bar Code Sticker or Number Set



1 - Bar code sticker
2 - Number set

Keep one part of the sticker for your records and leave the second part attached to the device.

Use the following procedure to program a wireless device after the control panel is programmed for RF zones:

1. Enter the programmer's mode by entering the default code followed by [#] [0].

> The code for the programmer's mode is preprogrammed at the factory as **987654**. The control panel's factory default for PIN length is four digits. Therefore, as the control panel is shipped, the default code for the programmer's mode is **9876**. However, if you change the PIN length default from four digits to six digits, the programmer's mode default code changes to **987654**.

> You can exit the programming mode at any time by pressing and holding the [*] key for two seconds. If no keystrokes are detected for thirty minutes, the control panel automatically exits programmer's mode.

2. Enter the RF programming mode by pressing [9] [9] [9] [0] [#].

> If you make an entry mistake while in RF programming mode, you can clear the mistake by pressing the [*] key twice.
>
> Exit RF programming mode by pressing [Off].

3. If no RF zones are programmed into the control panel, the following message displays:

```
No RF Zones
Press Off
```

4. If the control panel is programmed with RF zones, the RF Installer's Menu appears:

```
Add RF Zone?
Press 1
```

```
Test RF Zone?
Press 2
```

```
Remove RF Zone?
Press 3
```

6.1 Adding RF Zones

1. Select "Add RF Zone" by pressing the [1] key.
2. If all of the RF zones are added, the following message appears:

```
Last RF Zone
 Press Off
```

3. If zones are ready to be added, the following display appears:

```
Add Zone ###
 Press #
```

4. The zone number shown is the lowest number zone available to add. If no wireless devices (including keypads) are programmed, the zone shown is 130. Zones 130 through 134 are reserved for wireless keypads, and Zones 137 through 248 are reserved for other wireless devices. Select other zones by pressing the [ON] key on the keypad. If you step through all the zones and the message "Last RF Zone - Press Off" appears, return to the first available zone for programming by pressing the [On] key. You cannot step backward through the zones - only forward.

RF input zones and keyfobs appear on the display as Zones 137 to 248. RF keypads appear as Zone 130 (for Keypad 1) through Zone 134 (for Keypad 5).

5. When the desired zone number is shown in the display, press the [#] key to accept that zone number and display the following:

```
Enter ID Zn ###
```

6. Enter the 9-digit code from the ID sticker on the device, followed by [#]. The system confirms acceptance of the device with a single beep from the keypad, and displays the following message:

```
Added Zone ###
 Press On
```

7. Pressing the [On] key prompts the system to the next zone that is ready to be added to the system, or displays the message "No Zones To Add Press Off" if there are no zones to add.
8. A three beep tone from the keypad indicates that the device was not accepted by the system.
   If the display shows the following message, it indicates that the sensor code was already added to the system. The sensor shown can be removed from the system (refer to *Section 6.3 Removing RF Zones (and RF Keypads)*), or another sensor can be added to the system.

```
Duplicate Zn ###
 Press #
```

9. Press the [#] key to program the zone again.
10. If the following message appears, it indicates that the device ID number was not entered correctly:

```
ID Entry Error
 Press #
```

11. Press the [Off] key to exit the Add RF Zone mode. The system pauses while the RF zones are configured.

```
Configuring RF
 Please Wait
```

6.2 Testing RF Zones

1. From the RF Installer's menu, select Test RF Zone (selection 2).

```
Test RF Zone?
 Press 2
```

2. If there are no RF zones programmed into the system, or if the zones were not "Added", the following message displays:

```
No RF Zones
Press Off
```

3. If RF zones are programmed into the system and the sensors were "Added", the display identifies the first RF sensor available for testing:

```
Test Zone ###
Press #
```

4. Test the zone shown by pressing the [#] key, or advance to another zone by pressing the [On] key. When a zone is selected, you are prompted to activate the point. You can activate the point by creating an alarm or tamper condition.

```
Zone XXX
Activate Point
```

5. The test values display.

```
Zn XXX Marginal
P:XX L:XXX A:XXX
```

The information displayed is the zone number ("Zn") and the packet count ("P"). When sending information, the transmitter sends the same information 4 or 8 times in "packets", and the receiver must receive at least 1 of these packets. The number of packets sent depends on the device sending the information and the type of information. The number of packets does not reflect the actual strength of the signal.

"Good," "Marginal," or "Relocate" also appear, depending on the relative signal strength. The keypad beeps:

- Eight times if the signal is "Good"
- Four times if the signal is "Marginal"
- Once if the signal is "Relocate"

The "L" represents the relative signal strength above the ambient noise level, and is displayed as a value of 0 to 99. The "A" represents the ambient noise level and is displayed as a value of 0 to 99.

6. Pressing the [#] key allows you to select another zone. Pressing the [Off] key exits test mode.

6.3 Removing RF Zones (and RF Keypads)

Removing RF zones is a two-step process. First, the zone must be removed from the receiver using the following procedure. After the zone is removed from the receiver, remove the zone from its zone programming address (0167 to 0278) by setting the appropriate zone programming address to 00.

Perform the following procedure to remove an RF zone. Because zone addresses for RF keypads are already set to zero, they do **not** need to be changed.

1. Press [3] to select "Removing RF Zones".

```
Remove RF Zone?
Press 3
```

2. If no RF zones are programmed, the following message displays:

```
No RF Zones
Press Off
```

3. If there are RF zones to remove, the first available zone is displayed:

```
Remove Zone ###
Press #
```

4. Select the zone displayed, or advance to another zone by pressing the [On] key.
If the [#] key is pressed, the control panel scans the receiver to remove the ID for the specified sensor. When completed, the display shows the following message:

```
Zone Removed ###
Press #
```

5. Press the [#] key to view the next zone, or press the [Off] key to exit Remove Zone mode.

6.4 RF Zone Troubles

RF Zone Troubles only appear on the display after a user code followed by [#] [8] [7] is entered into the keypad. One or more of the following messages appear if there is a problem with a RF Zone:

- **Missing Zone:** Indicates the sensor zone failed to receive a report from the sensor during the supervisory period of 4 or 12 hours.

```
Missing Zone ###
   (Zone Text)
```

- **Trouble Zone:** Indicates that the RF sensor detected a trouble. Not all types of sensors have the ability to report troubles.

```
Trouble Zone ###
   (Zone Text)
```

- **Zone Trouble:** Might indicate a loop trouble condition.

```
Zone Trouble ###
   (Zone Text)
```

- **Tamper Zone:** The cover tamper indicates that the sensor cover was removed or tampered with.

```
Tamper Zone ###
   (Zone Text)
```

- **Low Battery:** Indicates that the sensor battery is low.

```
Low Bat Zone ###
   (Zone Text)
```

6.5 Receiver Trouble Delays

Receiver #1 refers to the receiver with the lower zone numbers. Receiver #2 refers to the receiver with the upper zone numbers. Refer to the receiver's *Installation Guide* for additional information.

The RF keypad can display the following receiver troubles:

- **RF Receiver Tamper:** Indicates that one of the receiver's covers was removed or tampered with. Receiver #1 refers to the receiver with the lower zone numbers.

```
 Control Trouble
Tamper RF Rcvr #
```

- **RF Receiver Jammed:** Indicates that the receiver might be receiving interference from outside sources. Older cell phones, multichannel cordless phones, some business/police/fire band radios, "walkie talkies," and so on can cause interference. Receiver #1 refers to the receiver with the lower zone numbers.

```
 Control Trouble
Jammed RF Rcvr #
```

- **RF Receiver Trouble:** Indicates that the receiver did not receive any supervisory signals from any of the sensors during the supervision interval. Check the receiver antennas and test all the sensors. If the sensor tests are unsuccessful, the problem is likely with the receiver. Receiver #1 refers to the receiver with the lower zone numbers.

```
 Control Trouble
Trouble RF Rcvr #
```

- **RF Receiver Communications:** Indicates that the receiver is not communicating with the multiplex interface module at the control panel. Check for open, shorted, reversed, or miswired connections between the multiplex interface module and the receiver. Make sure the receiver has +12 VDC power from the control panel. The multiplex module or the receiver might also be at fault.

```
Control Trouble
 Radio RX# Comm
```

Notes

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