Engineering Specification

Indoor Siren 6

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Version	1
Description	This document mainly introduces Aeotec new generation Indoor Siren 6 based on Z-Wave. The content mainly includes its appearance, features, and software function definition.
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1 PRODUCT INTRODUCTION

1.1 Abstract

Aeotec new generation Indoor Siren 6 is a smart Siren based on Z-Wave, which integrates more features.

Not only a Siren, but also can be used as a Doorbell via setting its modes.

Supporting pairing with 3 Buttons and can be controlled by 3 Buttons separately.

Built-in multiple tones, up to 30.

Designed as Multi Channel Device, including 1 Browse Endpoint, 3 Remote Endpoints, 2 Siren Endpoints, and 1 Instant Endpoint, which enhances its application scenarios.

Supports Security 2 Command Class. While a Security S2 enabled Controller is needed in order to fully use the security feature.

It can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

1.2 Important safety information

Please read this and the guide(s) at support. aeotec. com/siren 6 carefully.

Failure to follow the recommendations set forth by Aeotec Limited may be dangerous or cause a violation of the law. The manufacturer, importer, distributor, and/or reseller will not be held responsible for any loss or damage resulting from not following any instruction in this guide or in other materials.

Siren 6 is intended for indoor use in dry locations only. Do not use in damp, moist, and/or wet locations.

Warning: to prevent possible hearing damage, test only when wearing appropriate hearing protection.

Contains small parts; keep away from children.

1.3 Special Statement

There is no Button in the box.

If you want to make your Indoor Siren 6 become a Doorbell, you need to separately purchase another product, ZW166 Button. Or purchase a set of ZW162 Doorbell 6 directly, which is with one Button inside.

The function of Indoor Siren 6 is the same as Doorbell 6, except no Button inside.

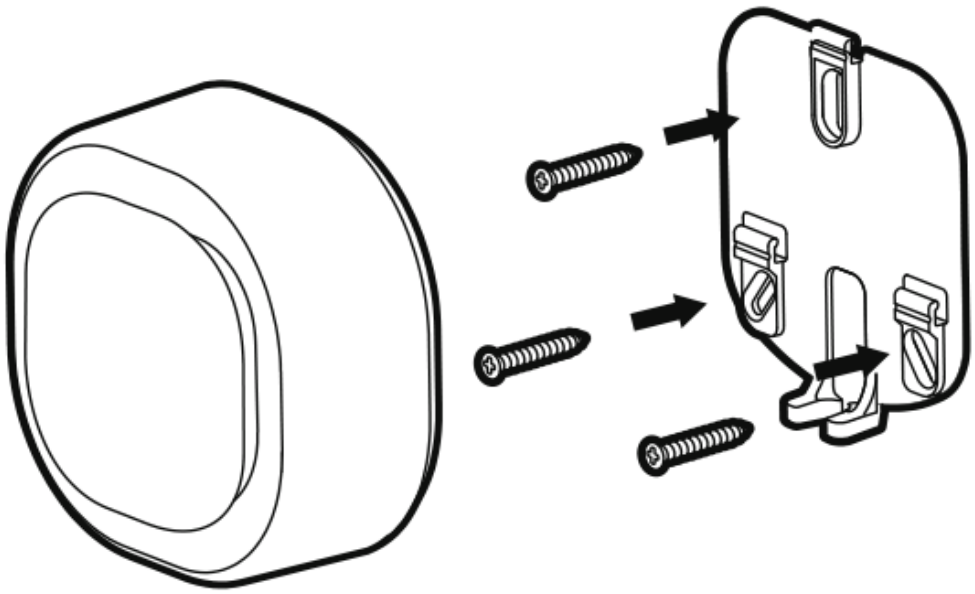
1.4 Quick start

The following will step you through installing Siren 6 and connecting it to your Z-Wave network.

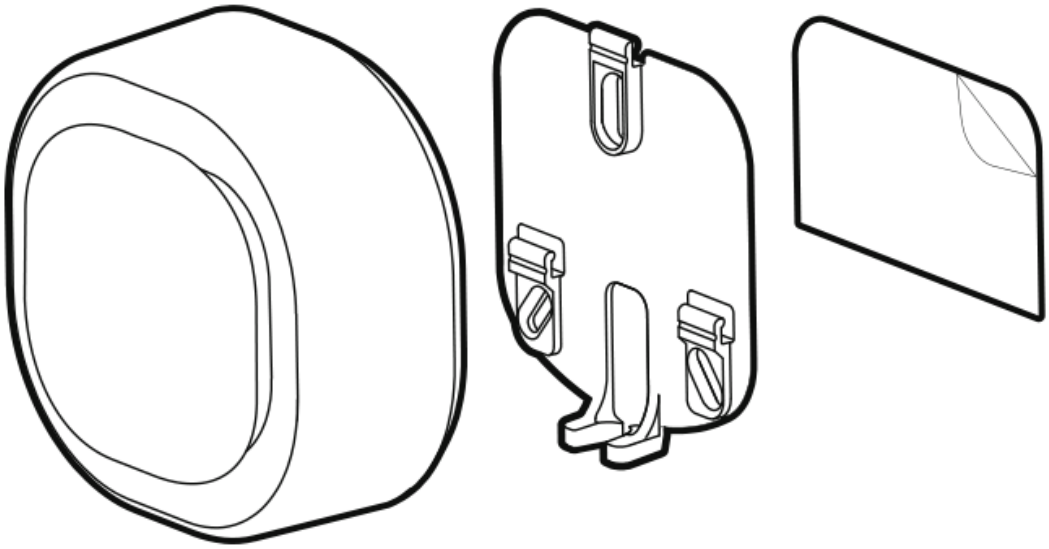
1. Power on Siren 6 via the provided power adapter; its LED will blink slowly.

2. Affix Chime in the desired installation location using the provided mounting plate.

a. Affix the mounting plate to the selected surface using either 3×20mm screws or double-sided tape.



b. Lock Chime onto the mounting plate.



3. Set your Z-Wave gateway into its ' add device' mode in order to connect Siren 6 to your Z-Wave system. Refer to the gateway's manual if you are unsure of how to perform this step.

4. Connect Siren 6 to your Z-Wave gateway; press the Siren 6's Action Button once. If your Z-Wave gateway supports S2 encryption, enter the first 5 digits of DSK into your gateway's interface if/when requested. The DSK is printed on Siren 6's housing.

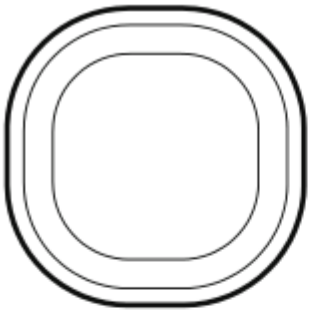
5. When Siren 6 successfully joins your Z-Wave network, its LED will emit a solid color for 30 seconds and then turn off. Should Siren 6's LED continue to blink and t has failed to join your Z-Wave network; repeat steps 2 to 3 and please contact us for further support if needed.

Siren 6 is now a part of your Z-Wave home control system. You can configure it and its automations via your Z-Wave system; please refer to your gateway's user guide for precise instructions.

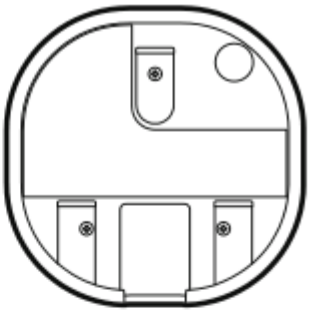
You're able to test Siren 6's speaker system manually. **Safety:** test only when wearing necessary ear protection. Siren 6's speaker emits tones up to 105dB that can cause hearing damage. To test manually, press and hold Action Button for 2 to 5 seconds.

2 PRODUCT APPEARANCE

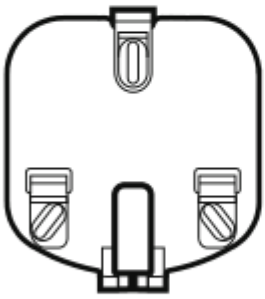




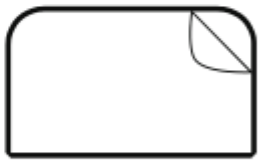
Chime-Front



Chime-Back



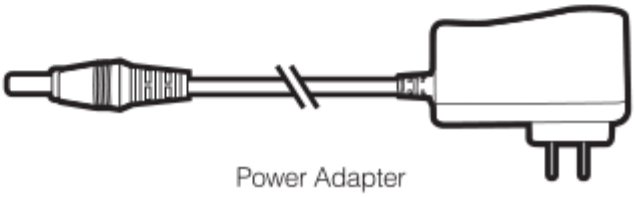
Wall Mount Plate



Double-sided tape



Screws (x 3)



Power Adapter

3 PRODUCT FEATURES

Parameter	Value
Product Identifier	ZW164
Dimensions	76*76*38.5mm
Weight	100g
Color	White
Environmental Requirements	Operating temperature: 32° to 104° F (0° to 40° C) Relative humidity: 8% to 80%
Wireless Technology	Z-Wave (Between Indoor Siren 6 and Gateway) , 433.92Mhz FSK(Between Indoor Siren 6 and Button)
Z-Wave Plus	Yes
Z-Wave Hardware Platform	ZM5101
Z-Wave Version	6.71.03
Z-Wave Library Type	Enhanced 232 Slave
Z-Wave Device Type	Sound Switch
Z-Wave Role Type	Always On Slave
Security Class	Non-Security, S0, S2 Unauthenticated, and S2 Authenticated
Smart Start Compatible	No
Over The Air (OTA)	Yes
Multi Channel Device	Yes
Z-Wave Antenna Distance	30m (Indoor) /150m (Outdoor)
Button Control Distance	120m (Barrier-free straight line distance)
External Buttons and Connectors	Action Button (x1) DC Port (x1)
Input Voltage	Adapter: DC 5V/2A Battery: 3.7V
Battery	Model: PT502035 Capacity: 400mAh Detachable: No Chargeable: Yes. Charging via power adapter. Endurance: 4 hours
Power Consumption	I_{WORK} < 80mA, $I_{STANDBY}$ < 70mA
Splash, Water, and Dust Resistant	Not Waterproof
Sensors	Vibration Sensor
Storage	16M
Supported Tones	Max: 30
Volume	Max: 105dB from 10cm, 7 levels adjustable
Tone Group	Include 1 Browse Group, 3 Remote Group, 2 Siren Group, and 1 Instant Group.
Supported Button	Max: 3
In the Box	Indoor Siren 6 (x1) Manual (x1) Screws (x3) Indoor Siren 6 Power adapter (x1) Indoor Siren 6 wall mount plate (x1) Indoor Siren 6 wall mount plate double-side tape (x1)

4 SOFTWARE FUNCTION DEFINITION

4.1 Function Overview

Function Item	Description
Inclusion	**When the product is out of the network:** ● If a controller is requesting to add a product and the product enters the Learning Mode with sending Node Info, the product will be added to the controller's network with a NodeID assigned by the controller. **When the product is in the network:** ● If a controller in the network is requesting to add a product and the product enters the Learning Mode with sending Node Info, the product will be added to the controller's network again but the NodeID of the product will not change. ● If a controller in another network is requesting to add a product and the product enters the Learning Mode with sending Node Info, the product will NOT be added to the controller's network.
Exclusion	**When the product is out of the network:** ● If a controller is requesting to remove a product and the product enters the Learning Mode with sending Node Info, the product will be removed from the controller's network, and keep being out of the network. **When the product is in the network:** ● If a controller in the network is requesting to remove a product and the product enters the Learning Mode with sending Node Info, the product will be removed from the controller's network, and become out of the network. ● If a controller in another network is requesting to remove a product and the product enters the Learning Mode with sending Node Info, the product will be removed from the controller's network, and become out of the network.
Factory Reset	● Long press Action Button more than 20s ● Sending Configuration Set (Please refer to Configuration Parameter=0xFF for details)
Power-down Memory	Remember the configuration information after the product is powered off.
Tone Play	Play the built-in tone with Sound Switch Tone Play Set, Basic Set, or Configuration Set.
Volume Adjustment	Adjust the volume with Sound Switch Configuration Set or Configuration Set.
Tone Group	Include 1 Browse Group, 3 Remote Group, 2 Siren Group, and 1 Instant Group. ● **Browse Group:** Used for browsing the built-in tone, and can be triggered by Sound Switch Tone Play Set, Basic Set, or Configuration Set. ● **Remote Group:** Used for Button wireless control, and can be triggered by Sound Switch Tone Play Set, Basic Set, or Configuration Set, as well as paired Button. ● **Siren Group:** Cooperate with other nodes as a Siren, and can be triggered by Sound Switch Tone Play Set, Basic Set, or Configuration Set. ● **Instant Group:** Used for continuous playback without pause, and can be triggered by Sound Switch Tone Play Set, Basic Set, or Configuration Set.
Tone Group Customization	Can custom different Tone Group Parameters with Configuration Set, including Tone Index, Play Control, Play Mode, Volume, Light Effect Index, Interval Between 2 tones, Continuous Play Count, Intercept The Length Of A Tone. Tone Name can't be customized by user.
Pair or Remove Button	● A Indoor Siren 6 supports up to 3 Button at the same time, while a Button can support multiple Indoor Siren 6 at the same time. ● **Manually quickly click Indoor Siren 6 Action Button to trigger pairing:** ✧ Click Action Button 3 times quickly will trigger pairing #1 Button. ✧ Click Action Button 4 times quickly will trigger pairing #2 Button. ✧ Click Action Button 5 times quickly will trigger pairing #3 Button. ✧ Only one Button can be paired at a time. ✧ This operation can only be used to trigger pairing, not removing. Removing Button MUST be executed by Configuration Set (Please refer to Configuration Parameter=0x24 for details) ● **Trigger pairing or removing with Configuration Set:** ✧ Please refer to Configuration Parameter=0x24 for details. ✧ Only one Button can be paired at a time. ✧ Multiple Buttons can be removed at a time. ● When pairing is triggered, user MUST manually click the Button 3 times quickly. ● When removing is triggered, user does not need to do anything to the Button. ● Pairing time is up to 10 seconds.

	● Each successful pairing will overwrite the previously paired Button. ● If pairing or removing button succeeds, Indoor Siren 6 will quickly flash white light 3 times and then off. ● If pairing button fails, Indoor Siren 6 will slowly flash white light 3 times and then off. ● If there is a new button being paired successfully, Indoor Siren 6 will play the corresponding tone of paired button once.

4.2 User Behavior Interaction

User behavior	Out of the network		In the network	
	Function	Indicator Light	Function	Indicator Light
Power OFF	NA	OFF	NA	OFF
Power ON	Supply Power	When powered by battery, it will be breathing white light for 30 seconds (max). When powered by adapter, it will be breathing white light all the time.	Supply Power	White light for 2 seconds and then off.
Click Action Button once	Send Node Info for Inclusion	When click Action Button once, it will quickly flash white light for 30 seconds until Indoor Siren 6 is added to the network. It will become constantly bright white light after being assigned a NodeID. If Inclusion succeeds, it will quickly flash white light 3 times and then off. If Inclusion fairs, it will slowly flash white light 3 times and then become breathing white light. If the button is clicked again during the network access process (when it is not really in Learning Mode), the network access process will exit, at the same time the indicator light will immediately extinguish, and then become breathing white light.	Stop playing the sound and light	Immediately OFF
Click Action Button 3 times quickly	Trigger pairing #1 Button	It will bright 1 time ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started. If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light.	Trigger pairing #1 Button	It will bright 1 time ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started. If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light.
Click Action Button 4 times quickly	Trigger pairing #2 Button	It will bright 2 times ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started.	Trigger pairing #2 Button	It will bright 2 times ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started.

		If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light.		If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light.
Click Action Button 5 times quickly	Trigger pairing #3 Button	It will bright 3 times ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started. If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light.	Trigger pairing #3 Button	It will bright 3 times ON 0.5s OFF 1s, and then become constantly bright white light, indicating that pairing button is already started. If pairing button succeeds, it will quickly flash white light 3 times and then become breathing white light. If pairing button fairs, it will slowly flash white light 3 times and then become breathing white light.
Click Action Button 6 times quickly	Reserved	Reserved	Send Node Info for Exclusion	White light is on, up to 2s. If Exclusion succeeds, it will quickly flash white light 3 times and then become breathing white light. If Exclusion fairs, it will keep extinguished.
Long Press Action Button [1, 2s)	Reserved	Extinguished when press and release.	Reserved	Extinguished when press and release.
Long Press Action Button [2, 5s)	Test the sound and light of the Browse Group	White light when press, and display in the default sound and light configuration of the Browse Group when release.	Test the sound and light of the Browse Group	White light when press, and display in the sound and light configuration of the Browse Group, based on Configuration Parameter 0x02, when release.
Long Press Action Button [5, 10s)	Reserved	Brighter white light when press, and extinguished when release.	Reserved	Brighter white light when press, and quickly flash white light when release, indicating start to test communication quality between Indoor Siren 6 and Node 1. At the end of the test, the white light is on for 2 seconds, then if the communication quality is Good or Great, then the white light quickly flashes 3 times and then goes out; if the communication quality is Weak, the white light slowly flashes 3 times and then goes out.
Long Press Action Button [10, 20s)	Reserved	Fast flashing white light when press, and extinguished when release.	Reserved	Fast flashing white light when press, and extinguished when release.
Long Press Action Button [20, ∞)	Factory Reset	When the time reaches 20s, the Factory Reset is performed no matter it is pressed or released. If Factory Reset succeeds, it will quickly flash white light 3 times and then become breathing white light.	Factory Reset after sending Device Reset Locally Notification Report	When the time reaches 20s, Factory Reset is performed no matter it is pressed or released. If Factory Reset succeeds, it will quickly flash white light 3 times and then become breathing white light.

				If Factory Reset fails, it will become extinguished when release.

4.3 Supplementary Explanation about Button

Function Item	Description
Wireless Control Indoor Siren 6	When click Button once, Button can wireless control the corresponding paired Indoor Siren 6.
Pairing Indoor Siren 6	When click Button 3 times quickly, Button can pair to the Indoor Siren 6 that triggers Pairing Button Mode.
Sending Button Info to Indoor Siren 6	When re-power, click Button once, or click Button 3 times quickly, Button will send its Button ID, Battery Voltage and Firmware Version to its corresponding paired Indoor Siren 6.
Automatic sleep	After sending Button Info to Indoor Siren 6, Button will sleep automatically for saving batter life.
Low battery indicator	If #1 Button is low battery, Indoor Siren 6 indicator light will repeat cycle (ON 100ms OFF 5s) If #2 Button is low battery, Indoor Siren 6 indicator light will repeat cycle (ON 100ms OFF 100ms ON 100ms OFF 5s) If #3 Button is low battery, Indoor Siren 6 indicator light will repeat cycle (ON 100ms OFF 100ms ON 100ms OFF 100ms ON 100ms OFF 5s) ● The low battery indicator will be activated when Indoor Siren 6 detects that the Button is low battery, and disappears after the battery returns to normal. ● When the battery voltage of Button is lower than 2.8V, it is judged to be low battery. ● When the battery voltage of Button restores to over 2.9V, it is judged to return to normal. ● The low battery indicator has the lowest priority among all light effects, that is, it will be displayed when there is no other light effect. ● The light effect of the 3 Buttons are different. When multiple Buttons is low battery at the same time, the corresponding light effect of the Button with smaller number is displayed first.

4.4 Tone Group Priority Definition

(#1 Siren = #2 Siren) > (#1 Remote = #2 Remoter = #3 Remote) > (Browse = Instant)

Rule Description	Example
A Tone Group is triggered, and the triggered Tone Group event is not released, if the other Tone Group event with lower priority than the Tone Group is triggered at this time, the Tone Group is maintained.	The #1 Siren Group is triggered and the Tone of #1 Siren Group is not stopped. At this time, if the paired #1 Button is clicked once, the Tone of the #1 Button Group will not be triggered, and the Tone of the #1 Siren Group will be maintained.
A Tone Group is triggered, and the triggered Tone Group event is not released, if the other Tone Group event with higher priority or the same priority than the Tone Group is triggered, it is immediately replaced by the new Tone Group.	The #1 Remote Group is triggered and the Tone of #1 Remote Group is not stopped. At this time, if the paired #2 Button is clicked once, the Tone of the #1 Remote Group will be stopped, and the Tone of the #2 Remote Group will be play immediately.

4.5 SDK, Library and Device Classes

The Indoor Siren 6 application is based on:

Parameter	Value
SDK	6.71.03
Library	Enhanced 232 slave
Role Type	Always On Slave (AOS)
Device Type	Sound Switch
Supported security keys	S0, S2_UNAUTHENTICATION, S2_AUTHENTICATION

4.6 Announced Command Classes in NIF

The Indoor Siren 6 application implements a number of mandatory and optional command classes.

Command Class	Version	Not added	Non-secure added	Securely added	
				Non-secure CC	Secure CC
ZWAVEPLUS_INFO	2	Support	Support	Support	
VERSION	2	Support	Support		Support
CONFIGURATION	1	Support	Support		Support
MANUFACTURER_SPECIFIC	2	Support	Support	Support	
ASSOCIATION_GRP_INFO	1	Support	Support		Support
ASSOCIATION	2	Support	Support		Support
POWERLEVEL	1	Support	Support		Support
MULTI_CHANNEL_ASSOCIATION	3	Support	Support		Support
MULTI_CHANNEL	4	Support	Support		Support
DEVICE_RESET_LOCALLY	1	Support	Support	Support	
TRANSPORT_SERVICE	2	Support	Support	Support	
SECURITY	1	Support	Support	Support	
SECURITY_2	1	Support	Support	Support	
SUPERVISION	1	Support	Support	Support	
FIRMWARE_UPDATE_MD	4	Support	Support		Support
NOTIFICATION	8	Support	Support		Support
SOUND_SWITCH	1	Support	Support		Support

4.7 Basic Command Class mapping

Basic Set Command (value) maps to Sound Switch Tone Play Set Command (Tone Identifier).

Basic Get Command maps to Sound Switch Tone Play Get Command.

Basic Report Command maps to Sound Switch Tone Play Report Command.

4.8 Z-Wave Plus Info

Parameter	Value
Z-Wave Plus Version	1
Role Type	5 (ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON)
Node Type	0 (ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE)
Installer Icon Type	0x2000 (ICON_TYPE_GENERIC_SOUND_SWITCH)
User Icon Type	0x2000 (ICON_TYPE_GENERIC_SOUND_SWITCH)

4.9 Manufacturer Specific

Parameter	Value
Manufacturer ID 1	0x03
Manufacturer ID 2	0x71
Product Type ID 1	EU=0x00, US=0x01, AU=0x02, CN=0x1D
Product Type ID 2	0x03
Product ID 1	0x00
Product ID 2	0xA4

4.10 Version

Parameter	Value
Z-Wave Protocol Library Type	0x03
Z-Wave Protocol Version	0x05
Z-Wave Protocol Sub Version	0x03
Firmware 0 Version	ZM5101 Software Version MSB
Firmware 0 Sub Version	ZM5101 Software Version LSB
Hardware Version	0xA4
Number of firmware targets	0x00

4.11 Multi Channel

Parameter	Value
Individual End Points	7
Aggregated End Points	0
Dynamic	0
Identical	1
Generic Device Class	GENERIC_TYPE_AV_CONTROL_POINT
Specific Device Class	SPECIFIC_TYPE_SOUND_SWITCH
Command Classes	COMMAND_CLASS_ZWAVEPLUS_INFO COMMAND_CLASS_SECURITY COMMAND_CLASS_SECURITY_2 COMMAND_CLASS_SUPERVISION COMMAND_CLASS_ASSOCIATION COMMAND_CLASS_ASSOCIATION_GRP_INFO COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION COMMAND_CLASS_NOTIFICATION COMMAND_CLASS_SOUND_SWITCH

4.12 Sound Switch

(1)Sound Switch Tones Number Report Command

Supported Tones = 10 (example)

(2)Sound Switch Tone Info Report Command (example)

Tone Identifier	Tone Duration	Name Length	Name
1	0x0014	8	1AMBUL~1
2	0x0001	8	2ALARM~1
3	0x0014	8	3POLIC~1
4	0x003A	8	4FIRE~1
5	0x000F	8	5GASLE~1
6	0x0003	8	6MODER~1
7	0x000B	8	7ELECT~1
8	0x0002	8	8CLASS~1
9	0x003C	8	9ARMIN~1
10	0x003C	8	10SECU~1

(3)Sound Switch Configuration Report Command

Parameter	Valid Value	Default Value
Volume	0..7	7
Default Tone Identifier	0..Supported Tones	1

Note:

Since the tones in the Indoor Siren 6 may be changed according to customer requirements, the Supported Tones and the Tone Info may be different. However, the difference will not affect the normal use of the application.

Besides, the Default Value of Volume and Default Tone Identifier in Sound Switch Configuration Report Command will not be modified the initial defaults although the customer requests to change tones.

4.13 Notification

Notification Type		Notification Events		Description
Home Security	0x07	State idle	0x00	Vibration event is inactive
		Tampering, product cover removed	0x03	Vibration event is triggered
Power Management	0x08	State idle	0x00	Button's battery comes back to normal
		Replace battery soon	0x0A	Button's battery is in low battery
Indoor Siren 6	0x0E	State idle	0x00	Indoor Siren 6 alarm is inactive
		Indoor Siren 6 active	0x01	Indoor Siren 6 alarm is triggered

4.14 Association groups information

Backwards compatibility for non-Multi Channel devices, forces the root device AGI table to contain all the association groups mentioned in each of the endpoints AGI tables except from group 1, the Lifeline group.

Root device

ID	Name	Node count	Profile	Function
1	Lifeline	5	General: Lifeline	● Send Device Reset Locally Notification when Factory Reset. ● Send Sound Switch Tone Play Report when Indoor Siren 6 is triggered to play tone. ● Send Sound Switch Configuration Report when the volume or default tone is changed. ● Send Configuration Report (Parameter=0x24) after finishing pairing or removing Button. ● Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 is triggered. ● Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 is inactive. ● Send Notification Report(Type=0x07;Event=0x03) when vibration sensor is triggered. ● Send Notification Report(Type=0x07;Event=0x00) when vibration sensor is inactive. ● Send Notification Report(Type=0x08;Event=0x0A) when Button's battery is in low battery. ● Send Notification Report(Type=0x08;Event=0x00) when Button's battery comes back to normal.
2	On/Off control (Browse)	5	Notification: Siren	Mirror of endpoint 1, group 2
3	On/Off control (Remote 1)	5	Notification: Siren	Mirror of endpoint 2, group 2
4	On/Off control (Remote 2)	5	Notification: Siren	Mirror of endpoint 3, group 2
5	On/Off control (Remote 3)	5	Notification: Siren	Mirror of endpoint 4, group 2
6	On/Off control (Siren 1)	5	Notification: Siren	Mirror of endpoint 5, group 2
7	On/Off control (Siren 2)	5	Notification: Siren	Mirror of endpoint 6, group 2

8	On/Off control (Instant)	5	Notification: Siren	Mirror of endpoint 7, group 2

Endpoint 1

ID	Name	Node count	Profile	Function
1	Browse via Lifeline	0	Notification: Siren	● Send Sound Switch Tone Play Report when Indoor Siren 6 Browse Group is triggered to paly tone. ● Send Sound Switch Configuration Report when the volume or default tone of Browse Group is changed. ● Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 Browse Group is triggered. ● Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 Browse Group is inactive.
2	On/Off control (Browse)	5	Notification: Siren	Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 Browse Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 Browse group comes back to normal.

Endpoint 2

ID	Name	Node count	Profile	Function
1	Remote 1 via Lifeline	0	Notification: Siren	● Send Sound Switch Tone Play Report when Indoor Siren 6 #1 Remote Group is triggered to paly tone. ● Send Sound Switch Configuration Report when the volume or default tone of #1 Remote Group is changed. ● Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #1 Remote Group is triggered. ● Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #1 Remote Group is inactive. ● Send Notification (Type=0x08; Event=0x0A) when Indoor Siren 6 #1 Button's battery is in low battery. ● Send Notification (Type=0x08; Event=0x00) when Indoor Siren 6 #1 Button's battery comes back to normal.
2	On/Off control (Remote 1)	5	Notification: Siren	Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #1 Remote Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 #1 Remote Group comes back to normal.

Endpoint 3

ID	Name	Node count	Profile	Function
1	Remote 2 via Lifeline	0	Notification: Siren	● Send Sound Switch Tone Play Report when Indoor Siren 6 #2 Remote Group is triggered to paly tone. ● Send Sound Switch Configuration Report when the volume or default tone of #2 Remote Group is changed. ● Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #2 Remote Group is triggered. ● Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #2 Remote Group is inactive. ● Send Notification (Type=0x08; Event=0x0A) when Indoor Siren 6 #2 Button's battery is in low battery. ● Send Notification (Type=0x08; Event=0x00) when Indoor Siren 6 #2 Button's battery comes back to normal.

2	On/Off control (Remote 2)	5	Notification: Siren	Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #2 Remote Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 #2 Remote Group comes back to normal.

Endpoint 4

ID	Name	Node count	Profile	Function
1	Remote 3 via Lifeline	0	Notification: Siren	● Send Sound Switch Tone Play Report when Indoor Siren 6 #3 Remote Group is triggered to paly tone. ● Send Sound Switch Configuration Report when the volume or default tone of #3 Remote Group is changed. ● Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #3 Remote Group is triggered. ● Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #3 Remote Group is inactive. ● Send Notification (Type=0x08; Event=0x0A) when Indoor Siren 6 #3 Button's battery is in low battery. ● Send Notification (Type=0x08; Event=0x00) when Indoor Siren 6 #3 Button's battery comes back to normal.
2	On/Off control (Remote 3)	5	Notification: Siren	Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #3 Remote Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 #3 Remote Group comes back to normal.

Endpoint 5

ID	Name	Node count	Profile	Function
1	Siren 1 via Lifeline	0	Notification: Siren	● Send Sound Switch Tone Play Report when Indoor Siren 6 #1 Siren Group is triggered to paly tone. ● Send Sound Switch Configuration Report when the volume or default tone of #1 Siren Group is changed. ● Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #1 Siren Group is triggered. ● Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #1 Siren Group is inactive.
2	On/Off control (Siren 1)	5	Notification: Siren	Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #1 Siren Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 #1 Siren Group comes back to normal.

Endpoint 6

ID	Name	Node count	Profile	Function
1	Siren 2 via Lifeline	0	Notification: Siren	● Send Sound Switch Tone Play Report when Indoor Siren 6 #2 Siren Group is triggered to paly tone. ● Send Sound Switch Configuration Report when the volume or default tone of #2 Siren Group is changed. ● Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 #2 Siren Group is triggered. ● Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 #2 Siren Group is inactive.
2	On/Off control (Siren 2)	5	Notification: Siren	Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 #2 Siren Group is triggered and forward the Basic Set with 0x00 to

				associated nodes in this group when the Indoor Siren 6 #2 Siren Group comes back to normal.

Endpoint 7

ID	Name	Node count	Profile	Function
1	Instant via Lifeline	0	Notification: Siren	● Send Sound Switch Tone Play Report when Indoor Siren 6 Instant Group is triggered to paly tone. ● Send Sound Switch Configuration Report when the volume or default tone of Instant Group is changed. ● Send Notification Report(Type=0x0E;Event=0x01) when Indoor Siren 6 Instant Group is triggered. ● Send Notification Report(Type=0x0E;Event=0x00) when Indoor Siren 6 Instant Group is inactive.
2	On/Off control (Instant)	5	Notification: Siren	Forward the Basic Set with 0xFF to associated nodes in this group when the Indoor Siren 6 Instant Group is triggered and forward the Basic Set with 0x00 to associated nodes in this group when the Indoor Siren 6 Instant Group comes back to normal.

4.15 Configuration

<table>
<tr><th>Param.</th><th>Description</th><th>W/R</th><th>Default</th><th>Size</th></tr>
<tr><td>0x02
(2)</td><td>Set or Get Browse Group
<table>
<tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr>
<tr><td colspan="5">Tone Index</td><td colspan="3">Play Control</td></tr>
<tr><td colspan="4">Reserved</td><td colspan="4">Volume</td></tr>
<tr><td colspan="5">Reserved</td><td colspan="3">Light Effect Index</td></tr>
<tr><td colspan="8">Play Mode</td></tr>
</table>
Tone Index (Max=Supported Tones)
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>Reserved</td></tr>
<tr><td>1..Max</td><td>Set the default tone</td></tr>
<tr><td>Other</td><td>Reserved</td></tr>
<tr><td>31</td><td>Keep the previous configuration</td></tr>
</table>
Play Control
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>Set but not play</td></tr>
<tr><td>1</td><td>Play</td></tr>
<tr><td>2</td><td>Stop</td></tr>
<tr><td>3</td><td>Previous (In this case, Tone Index MUST be equal to 31)</td></tr>
<tr><td>4</td><td>Next (In this case, Tone Index MUST be equal to 31)</td></tr>
<tr><td>5</td><td>Reserved</td></tr>
<tr><td>6</td><td>Reserved</td></tr>
<tr><td>7</td><td>Keep the previous configuration</td></tr>
</table>
Volume
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>Mute</td></tr>
<tr><td>1..7</td><td>1 is the minimum volume, 7 is the max volume.</td></tr>
<tr><td>8..14</td><td>Reserved</td></tr>
<tr><td>15</td><td>Keep the previous configuration</td></tr>
</table>
Light Effect Index
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0..6</td><td>Select the specified Light Effect, the Light Effect can be configured by parameter 0x0A-0x10</td></tr>
<tr><td>7</td><td>Keep the previous configuration</td></tr>
</table>
Play Mode
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>Single No Loop Play</td></tr>
<tr><td>1</td><td>Single Loop Play</td></tr>
<tr><td>2</td><td>List Loop Play</td></tr>
<tr><td>3</td><td>List Random Play</td></tr>
<tr><td>4..254</td><td>Reserved</td></tr>
<tr><td>255</td><td>Keep the previous configuration</td></tr>
</table>
Note:
Tone Index maps to the Default Tone Identifier of Sound Switch Configuration Set CC. Volume maps to the Volume of Sound Switch Configuration Set CC.</td><td>WR</td><td>0x0C070000</td><td>4</td></tr>
<tr><td>0x03
(3)</td><td>Set or Get #1 Remote Group
<table>
<tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr>
<tr><td colspan="5">Tone Index</td><td colspan="3">Play Control</td></tr>
<tr><td colspan="4">Interval Between 2 Tones</td><td colspan="4">Volume</td></tr>
<tr><td colspan="5">Continuous Play Count</td><td colspan="3">Light Effect Index</td></tr>
<tr><td colspan="8">Intercept The Length Of A Tone</td></tr>
</table></td><td>WR</td><td>0x31070914</td><td>4</td></tr>
</table>

Tone Index (Max=Supported Tones)

Value	Description
0	Reserved
1..Max	Set the default tone
Other	Reserved
31	Keep the previous configuration

Control

Value	Description
0	Set but not play
1	Play
2	Stop
3..6	Reserved
7	Keep the previous configuration

Volume

Value	Description
0	Mute
1..7	1 is the minimum volume, 7 is the max volume.
8..14	Reserved
15	Keep the previous configuration

Interval Between 2 Tones

Value	Description
0	Not stopping
1..14	1-14 seconds, the interval time between 2 tones
15	Keep the previous configuration

Light Effect Index

Value	Description
0..6	Select the specified Light Effect, the Light Effect can be configured by parameter 0x0A-0x10
7	Keep the previous configuration

Continuous Play Count

Value	Description
0	Continuous Play
1..30	1-30 times, the count that the tone will be repeated to be played
31	Keep the previous configuration

Intercept The Length Of A Tone

Value	Description
0	The Length Of A Tone Itself.
1..254	1-254 seconds, Intercept The Length Of A Tone. Actual Single Play Time is equal to the smaller value between The Length Of A Tone Itself and Intercept The Length Of A Tone.
255	Keep the previous configuration

Note:
Tone Index maps to the Default Tone Identifier of Sound Switch Configuration Set CC. Volume maps to the Volume of Sound Switch Configuration Set CC.

Total Tone Playback Time = Continuous Play Count x (Actual Single Play Time + Interval Between 2 Tones)

0x04 (4)

Set or Get #2 Remote Group

WR

0x39070914

4

7	6	5	4	3	2	1	0
Tone Index					Play Control		
Interval Between 2 Tones				Volume			
Continuous Play Count					Light Effect Index		
Intercept The Length Of A Tone							

Note:
The valid values can be referenced to the definition of parameter 0x03.

<table>
<tr><td>0x05
(5)</td><td>Set or Get #3 Remote Group<table><tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr><tr><td colspan="5">Tone Index</td><td colspan="3">Play Control</td></tr><tr><td colspan="4">Interval Between 2 Tones</td><td colspan="4">Volume</td></tr><tr><td colspan="5">Continuous Play Count</td><td colspan="3">Light Effect Index</td></tr><tr><td colspan="8">Intercept The Length Of A Tone</td></tr></table>Note:
The valid values can be referenced to the definition of parameter 0x03.</td><td>WR</td><td>0x41070914</td><td>4</td></tr>
<tr><td>0x06
(6)</td><td>Set or Get #1 Siren Group<table><tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr><tr><td colspan="5">Tone Index</td><td colspan="3">Play Control</td></tr><tr><td colspan="4">Interval Between 2 Tones</td><td colspan="4">Volume</td></tr><tr><td colspan="5">Continuous Play Count</td><td colspan="3">Light Effect Index</td></tr><tr><td colspan="8">Intercept The Length Of A Tone</td></tr></table>Note:
The valid values can be referenced to the definition of parameter 0x03.</td><td>WR</td><td>0x11070A14</td><td>4</td></tr>
<tr><td>0x07
(7)</td><td>Set or Get #2 Siren Group<table><tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr><tr><td colspan="5">Tone Index</td><td colspan="3">Play Control</td></tr><tr><td colspan="4">Interval Between 2 Tones</td><td colspan="4">Volume</td></tr><tr><td colspan="5">Continuous Play Count</td><td colspan="3">Light Effect Index</td></tr><tr><td colspan="8">Intercept The Length Of A Tone</td></tr></table>Note:
The valid values can be referenced to the definition of parameter 0x03.</td><td>WR</td><td>0x19070A14</td><td>4</td></tr>
<tr><td>0x08
(8)</td><td>Set or Get Instant Group<table><tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr><tr><td colspan="5">Tone Index</td><td colspan="3">Play Control</td></tr><tr><td colspan="4">Interval Between 2 Tones</td><td colspan="4">Volume</td></tr><tr><td colspan="5">Continuous Play Count</td><td colspan="3">Light Effect Index</td></tr><tr><td colspan="8">Intercept The Length Of A Tone</td></tr></table>Note:
The valid values can be referenced to the definition of parameter 0x03.
The valid values of Interval Between 2 Tones are only 0 and 15.
The valid values of Continuous Play Count are only 0 and 31.</td><td>WR</td><td>0x51070314</td><td>4</td></tr>
<tr><td>0x0A
(10)</td><td>Set or Get Light Effect Index 0<table><tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr><tr><td colspan="8">Brighten Duration</td></tr><tr><td colspan="8">Dim Duration</td></tr><tr><td colspan="8">Light ON Duration</td></tr><tr><td colspan="8">Light OFF Duration</td></tr></table>Brighten Duration
The time from Light OFF to Light ON. (Unit = 10ms)

Dim Duration
The time from Light ON to Light OFF. (Unit = 10ms)

Light On Duration
The time of Light ON. (Unit = 100ms)

Light Off Duration
The time of Light OFF. (Unit = 100ms)

Note:
Total Light Effect Time = Brighten + Dim + Light ON + Light OFF</td><td>WR</td><td>0x96321403</td><td>4</td></tr>
<tr><td>0x0B
(11)</td><td>Set or Get Light Effect Index 1
Note:
The valid values can be referenced to the definition of parameter 0x0A</td><td>WR</td><td>0x64640003</td><td>4</td></tr>
<tr><td>0x0C</td><td>Set or Get Light Effect Index 2</td><td>WR</td><td>0x00420103</td><td>4</td></tr>
</table>

<table>
<tr><td>(12)</td><td>Note:
The valid values can be referenced to the definition of parameter 0x0A</td><td></td><td></td><td></td></tr>
<tr><td>0x0D
(13)</td><td>Set or Get Light Effect Index 3
Note:
The valid values can be referenced to the definition of parameter 0x0A</td><td>WR</td><td>0x42000003</td><td>4</td></tr>
<tr><td>0x0E
(14)</td><td>Set or Get Light Effect Index 4
Note:
The valid values can be referenced to the definition of parameter 0x0A</td><td>WR</td><td>0x0000000A</td><td>4</td></tr>
<tr><td>0x0F
(15)</td><td>Set or Get Light Effect Index 5
Note:
The valid values can be referenced to the definition of parameter 0x0A</td><td>WR</td><td>0x00000A00</td><td>4</td></tr>
<tr><td>0x10
(16)</td><td>Set or Get Light Effect Index 6
Note:
The valid values can be referenced to the definition of parameter 0x0A</td><td>WR</td><td>0x42000001</td><td>4</td></tr>
<tr><td>0x11
(17)</td><td>Set or Get the volume of vibration sensor alarm
<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Mute</td></tr><tr><td>1-7</td><td>1 is the minimum volume, 7 is the max volume</td></tr><tr><td>Other</td><td>Reserved</td></tr></table></td><td>WR</td><td>7</td><td>1</td></tr>
<tr><td>0x20
(32)</td><td>Communication Quality Report (REPORT ONLY)
<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Weak</td></tr><tr><td>15</td><td>Good</td></tr><tr><td>255</td><td>Great</td></tr><tr><td>Other</td><td>Reserved</td></tr></table>Note:
Can be used to confirm the communication quality between Siren and Node 1. The function will be activated after long pressing Action Button for 5 seconds.</td><td>NA</td><td>-</td><td>1</td></tr>
<tr><td>0x21
(33)</td><td>Get the information of #1 Button (GET ONLY)
<table><tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr><tr><td colspan="8">Button Pairing State</td></tr><tr><td colspan="8">Button Battery Voltage MSB</td></tr><tr><td colspan="8">Button Battery Voltage LSB</td></tr><tr><td colspan="8">Button Firmware Version</td></tr></table>Button Pairing State
<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Unpaired</td></tr><tr><td>1</td><td>Paired</td></tr><tr><td>Other</td><td>Reserved</td></tr></table>Button Battery Voltage MSB & LSB
<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Unpaired</td></tr><tr><td>1-66634</td><td>The Unit of Battery Voltage is mV</td></tr><tr><td>65535</td><td>Low power</td></tr></table>Button Firmware Version
<table><tr><th>Bit</th><th>Description</th></tr><tr><td>Bit 0~3</td><td>The LSB of Button Firmware Version</td></tr><tr><td>Bit 4~7</td><td>The MSB of Button Firmware Version</td></tr></table>For example, if Button Firmware Version equals to 0x10, it means V1.00.
Note:
This parameter does not restore the default value when remove from the network or reset the factory settings.</td><td>R</td><td>-</td><td>4</td></tr>
<tr><td>0x22
(34)</td><td>Get the information of #2 Button
Note:
The valid values can be referenced to the definition of parameter 0x21</td><td>R</td><td>-</td><td>4</td></tr>
<tr><td>0x23
(35)</td><td>Get the information of #3 Button
Note:
The valid values can be referenced to the definition of parameter 0x21</td><td>R</td><td>-</td><td>4</td></tr>
</table>

<table>
<tr>
<td>0x24
(36)</td>
<td>Pair or Remove the Button
<table>
<tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr>
<tr><td colspan="4">Pairing Control</td><td colspan="4">Button Number Bit Mask</td></tr>
</table>
<u>Set:</u>
Pairing Control (4 bits)
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>Remove Button</td></tr>
<tr><td>1</td><td>Pair Button</td></tr>
<tr><td>Other</td><td>Reserved</td></tr>
</table>
Button Number Bit Mask(4 bits)
<table>
<tr><th>Bit</th><th>Description</th></tr>
<tr><td>Bit 0</td><td>#1 Button</td></tr>
<tr><td>Bit 1</td><td>#2 Button</td></tr>
<tr><td>Bit 2</td><td>#3 Button</td></tr>
<tr><td>Bit 3</td><td>Reserved</td></tr>
</table>
If want to Pair or Remove the specified Button, the sending node MUST set the corresponding bit of Button to 1.

Only one Button can be paired at a time. The node will ignore commands which want to pair multiple Buttons at the same time.

Multiple Buttons can be removed at a time.

<u>Get:</u>
Can be used to request which Buttons has been paired after finishing pairing or removing button.

<u>Report:</u>
When pairing button is started, Indoor Siren 6 will automatically report 0x24 once to notify which Button is waiting for pair. At this moment, the Pairing Control is equal to 1, and the corresponding bit of Button is equal to 1.

When pairing button is finished, Indoor Siren 6 will automatically report 0x24 once to notify which Buttons has been paired. At this moment, the Pairing Control is equal to 2, and the corresponding bit of Button which has been paired is equal to 1 while the corresponding bit of Button which has NOT been paired is equal to 0.

When removing button is finished, Indoor Siren 6 will automatically report 0x24 once to notify which Buttons has been removed. At this moment, the Pairing Control is equal to 2, and the corresponding bit of Button which has been paired is equal to 1 while the corresponding bit of Button which has NOT been paired is equal to 0.

Note:
When pairing button is started, Indoor Siren 6 will always bright white light. Pairing time is up to 10 seconds.

When pairing button is finished, If there is a new button being paired successfully, the Indoor Siren 6 will play the corresponding tone of paired button once.

When removing button is finished, Indoor Siren 6 will flash white light 3 times.

This parameter does not restore the default value when remove from the network or reset the factory settings.</td>
<td>WR</td><td>-</td><td>1</td>
</tr>
<tr>
<td rowspan="2">0xFF
(255)</td>
<td>Reset to factory default setting OR remove from the Z-Wave network (SET ONLY)
If Size=4, Default=1, Value=0x55555555, then
Reset to factory default setting (except 0x21/0x22/0x23/0x24) and remove from the Z-Wave network.</td>
<td>W</td><td>-</td><td>4</td>
</tr>
<tr>
<td>Reset to factory default setting (except 0x21/0x22/0x23/0x24)</td>
<td>W</td><td>-</td><td>1</td>
</tr>
</table>