

Draft



DH300 Curve Digital Hub and CB400 Series Installation Guide

SEPTEMBER 2023

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Foreword

This manual is intended for on-site installation of the DH300 Curve Digital Hub and CB400 Series Call Buttons.

Configuration to the devices is performed in Motorola Solutions Configuration Tool by Motorola Solutions authorized dealers. For more information, see [Configuring Motorola Solutions Tool on page 11](#).

Document History

Edition	Description	Date
MN009243A01-AA	Initial release.	September 2023

Intellectual Property and Regulatory Notices

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European Union (EU) and United Kingdom (UK) Waste of Electrical and Electronic Equipment (WEEE) Directive



■ The European Union's WEEE directive and the UK's WEEE regulation require that products sold into EU countries and the UK must have the crossed-out wheellie bin label on the product (or the package in some cases). As defined by the WEEE directive, this crossed-out wheellie bin label means that customers and end-users in EU and UK countries should not dispose of electronic and electrical equipment or accessories in household waste.

Customers or end-users in EU and UK countries should contact their local equipment supplier representative or service centre for information about the waste collection system in their country.

Disclaimer

Please note that certain features, facilities, and capabilities described in this document may not be applicable to or licensed for use on a specific system, or may be dependent upon the characteristics of a specific mobile subscriber unit or configuration of certain parameters. Please refer to your Motorola Solutions contact for further information.

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Legal and Compliance Statements

Supplier's Declaration of Conformity

Supplier's Declaration of Conformity

Per FCC CFR 47 Part 2 Section 2.1077(a)



Responsible Party

Name: Motorola Solutions, Inc.

Address: 2000 Progress Pkwy, Schaumburg, IL. 60196

Phone Number: 1-800-927-2744

Hereby declares that the product:

Model Name: **DH300**

conforms to the following regulations:

FCC Part 15, subpart B, section 15.107(a), 15.107(d), and section 15.109(a)

Class B Digital Device

As a personal computer peripheral, this device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.



NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

For country code selection usage (WLAN devices)



NOTE: The country code selection is for non-US model only and is not available to all US models. Per FCC regulation, all Wi-Fi products marketed in the US must be fixed to US operation channels only.

Supplier's Declaration of Conformity

Supplier's Declaration of Conformity

Per FCC CFR 47 Part 2 Section 2.1077(a)



Responsible Party

Name: Motorola Solutions, Inc.

Address: 2000 Progress Pkwy, Schaumburg, IL. 60196

Phone Number: 1-800-927-2744

Hereby declares that the product:

Model Name: **CB401, CB402, CB403C, CB403W**

conforms to the following regulations:

FCC Part 15, subpart B, section 15.107(a), 15.107(d), and section 15.109(a)

Class A Digital Device

As a personal computer peripheral, this device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.



NOTE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operations of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For country code selection usage (WLAN devices)



NOTE: The country code selection is for non-US model only and is not available to all US models. Per FCC regulation, all Wi-Fi products marketed in the US must be fixed to US operation channels only.

ISED WLAN Statement



CAUTION:

1. The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
2. The maximum antenna gain permitted for devices in the bands 5250–5350 MHz and 5470–5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit.
3. The maximum antenna gain permitted for devices in the band 5752–5850 MHz shall be such that the equipment still complies with e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate.
4. The worst case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2 (3) shall be clearly indicated.
5. User should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250–5350 MHz and 5650–5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Notice to Users (FCC and Innovation, Science and Economic Development Canada (ISED))

This device complies with Part 15 of the FCC rules and Innovation, Science and Economic Development Canada's license-exempt RSS's per the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications made to this device, not expressly approved by Motorola Solutions, could void the authority of the user to operate this equipment.

Compliance with RF Exposure Standards

National and international regulations require manufacturers to comply with the RF energy exposure limits for devices before they can be marketed. Your Motorola Solutions device is designed, manufactured, and tested to comply with all applicable national and international regulations for human exposure to radio frequency electromagnetic energy.

For DH300, observe a minimum safe distance of 80 cm (31.5 inches) from the device to the operator.

For CB400 series, observe a minimum safe distance of 20 cm (7.9 inches) from the device to the operator.

Important Safety Information

Product Safety

The device requires care in mounting and servicing. Observing the safety precautions ensures the proper function and safety of the unit.

Operational Safety Guidelines

Observe the following precautions to ensure the proper function and safety of the unit:

- Do not screw through the device to mount to a surface.
- Keep the device away from water, high moisture, and high temperatures.
- This equipment contains potentially hazardous voltages.
- Do not attempt to disassemble the unit.
- Except for the batteries, this unit contains absolutely no user serviceable components and all service should be completed only by qualified service personnel.
- Do not dispose of batteries in fire. The batteries may explode.
- Do not open or mutilate the batteries, they contain dangerous electrolytes.
- Operating this unit in any capacity other than its intended purpose may result in system failure and possible injury and voids any and all warranty.

Chapter 1

Introduction

The DH300 Digital Hub and CB Series Call Buttons are part of the Curve Series communication solution that enables alert messaging across retail stores, warehouses, and other physical spaces.

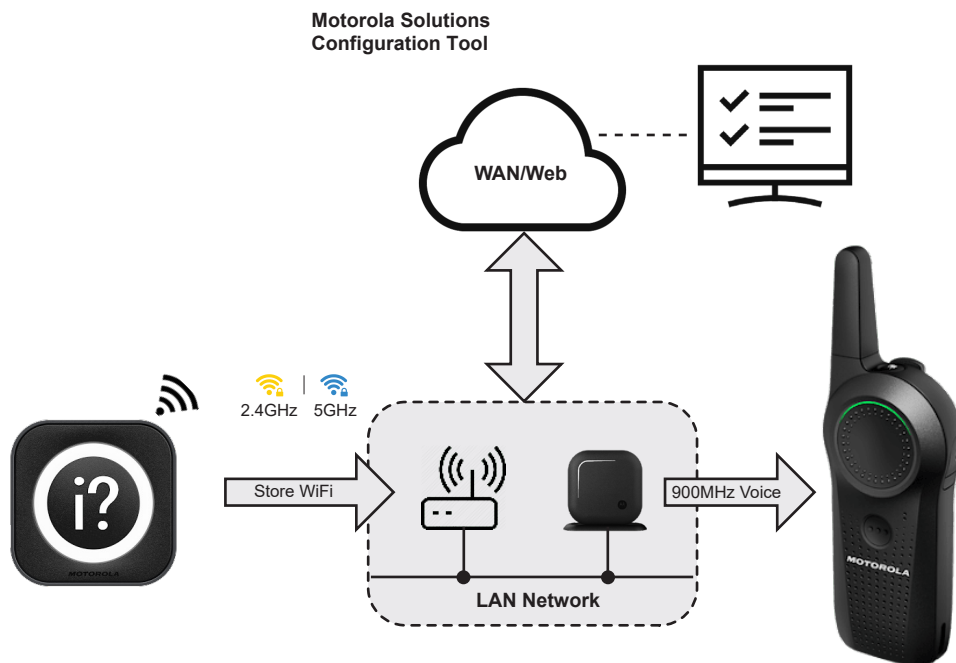
The devices trigger alerts and alarms with messages to the associate. Escalation process and notification routes are established to ensure proper respond and actions are taken. For example, when a shopper pushes a call button, a message is routed to the Curve radio in the store to alert a store associate that assistance is required at a specific location.

1.1

Installation Overview

The following information is an overview for installing the DH300 Curve Digital Hub and CB400 Series Call buttons.

Figure 1: Operational Workflow



The Curve Digital Hub is a wireless, license-free interface between your Wi-Fi network and Curve radios. On a 900 MHz license free network, the Curve Digital Hub connects Wi-Fi call button triggers to the digital Curve radios through voice alerts. Audio messages are stored locally in the Curve Digital Hub, allowing for quick communication between the Cloud named as Motorola Solutions Configuration Tool and Curve radios.

Upon pressing the call button, the Wi-Fi call button communicates with the Curve Digital Hub over Wi-Fi, which triggers the hub to send an alert to Curve radios.

Call button can be seamlessly managed on the Motorola Solutions Configuration Tool. You can remotely configure the escalation notifications and access call button data.

Chapter 2

Configuring Motorola Solutions Tool

Procedure:

1. Log on to Motorola Solutions Configuration Tool portal.
2. Configure the followings:
 - Organization setting, account setting, and sites.
 - Sites profile including the Service Set Identifier (SSID) and password.
 - Call button device in-store locations assignment.
 - Hub, call buttons, site, and alarm profiles.
3. To interlink the configurations, create rules.
4. Deploy the configuration changes and the rules.
5. To add the devices into the inventory, scan the Unique Identifier (UID) barcode or type in the UID 11 character string into the **Add Device** section.
6. To allocate the hub to **Account** → **Sites**, scan or type in the DH300 Hub UID barcode.
7. To allocate the call button to **Account** → **Sites** and device location, scan the device UID barcode using a barcode scanner or type in the UID of 11-length variable character.
8. Ship the hub and call buttons to the designated location.
9. Inform the network requirements to the customers.



NOTE: For more information on the portal configuration, refer to the Motorola Solutions Configuration Tool User Guide at <https://learning.motorolasolutions.com/user-guide/86290enus>

Chapter 3

On-Site Installation

On-site installation is performed when the configuration in the Motorola Solutions Configuration Tool is completed and deployed.

3.1

Setting up the DH300 Curve Digital Hub

Prerequisites: The DH300 Digital hub is preconfigured in the Motorola Solutions Configuration Tool.

Procedure:

1. Connect to the DC power adaptor.
2. Connect the DH300 to your local LAN using the Ethernet connector.
 - The DH300 IP address is Dynamic Host Configuration Protocol (DHCP) and automatically connects to the internet and starts provisioning within 45 seconds.
 - The Transmission Control Protocol (TCP)/Internet protocol (IP) ports must be open. The default settings are TCP port 443 and UDP ports 53 and 123.
 - The hub blinks white when the setup is completed. The internet connection is established and ready to download provisioning files from Motorola Solutions Configuration Tool.

Table 1: LED Indicators

LED Indicators	Status
Solid Red	Hub is powered up. The bottom LED illuminates.
Solid Blue	Hub is provisioning the cloud deployment.
Blinking White	Connection established.
Blinking Green	Audio communication transmission is in progress.
Solid Green	Transmitting audio communication.
Solid Yellow	Internet is connected but the hub connection to the cloud server is not successful.

3.2

Setting up the CB400 Series Wi-Fi Call Button

Prerequisites: The CB400 Series Wi-Fi Call Button is preconfigured in the Motorola Solutions Configuration Tool.

Procedure:

1. Hold or place the call button at 1 to 5 meters (3 to 15 feet) distance from the Curve Digital Hub when setting up the devices.

2. Pull the battery tabs.

- The call button downloads the Wi-Fi credentials such as Service Set Identifier (SSID) and password from the hub profile events.
- The call button disconnects from the hub Wi-Fi and reconnects to site Wi-Fi through access point
- The call button downloads profile such as voice assurance file, location, and others.


3. Mount the call button at the designated location.

 **NOTE:**

- The call button must be located near the digital hub when it is provisioned. The call button connects to the cloud through the hub internal Wi-Fi.
- When the call button is provisioned and has received the Wi-Fi credentials, the call button communicates to the cloud through the access point. Call buttons use a low powered transmitter and operate best with a clear line of sight to the nearest access point. Tall shelving, merchandise, and metal signs blocks or reduces the call button signals.
- Call buttons are located in the areas where customers require assistance and service counters. Stores and installers must be aware of the Americans with Disabilities Act (ADA) requirements for accessibility.

The followings are the LED indications for the first time setup after the battery tab is pulled out:


Table 2: LED Indicators

LED Indicators	Status
Solid Yellow or Blinking Yellow	<ul style="list-style-type: none"> • Establishing internet connection. • Downloading the provision file through the hub. The LED turns off when downloading is completed.
Solid Blue	Firmware update from the Motorola Solutions Configuration Tool.
Solid Purple	Updating the .wav audio file received from the hub.
Blinking White	The LED blinks when the call button is activated. The call button remains active depending on the timer setup in the Motorola Solutions Configuration Tool.
Blinking Blue	The LED blinks when you press the call button to request for assistance.
Solid Yellow and sounds a tone	Reset button press.
 NOTE:	The LED indicators are default colors configured in the cloud configuration. LED indicators and settings are configurable through Motorola Solutions Configuration Tool.

3.2.1

Basic Troubleshooting

Table 3: Basic Troubleshooting

Problem	LED Indication	Solution
No IP received from Dynamic Host Configuration Protocol (DHCP) server.	The LED blinks red once, blue once, and pauses. This repeats for six cycles.	Check the network firewall.
Unable to find the hub Access Point (AP).	The LED blinks red once, blue twice, and pauses. This repeats for six cycles.	Check the Rules in the Motorola Solutions Configuration Tool.
Unable to find the store AP due to AP being offline, wrong Service Set Identifier (SSID), and wrong passphrase.	The LED blinks red once, blue three times, and pauses. This repeats for six cycles.	Check the Site Profile in the Motorola Solutions Configuration Tool.
Unable to connect to the cloud controller due to the port blocking.	The LED blinks red once, blue four times, and pauses. This repeats for six cycles.	Check the network firewall.
Unable to connect to the cloud controller due to the invalid URL.	The LED blinks red once, blue five times, and pauses. This repeats for six cycles.	Contact technical support.
Incorrect Configuration, Unique Identifier (UID) or Access Token.	The LED blinks red once, blue six times, and pauses. This repeats for six cycles.	Check the Rules in the Motorola Solutions Configuration Tool.
 NOTE: Contact your Motorola Solutions authorized dealer to troubleshoot.		

Chapter 4

Wi-Fi Call Button Mount

This chapter provides information on how to mount the Wi-Fi call button.

Two CR17345 3.0 V lithium battery are included in all the call buttons.


NOTE:

- Call buttons are located in areas where customers require assistance and service counters. Stores and installers must be aware of the Americans with Disabilities Act (ADA) requirements for accessibility.
- Call buttons use a low powered transmitter and operate best with a clear line of sight to the nearest access point. Tall shelving, merchandise, and metal signs blocks or reduces the call button signals.

4.1

Mounting CB401 Glass Mount Wi-Fi Call Button

Prerequisites:

- Use the CB401 mounting base for the installation.
- Use the mounting kit that comes with the glass mount call button

Figure 2: Mounting Kits


Procedure:

1. Identify the mounting height for the call button.
The typical height from the floor is 48 to 54 inches.
2. Do one of the followings to mount the call button.

Mounting Type	Descriptions
Mounting using adhesives	Clean the surface using the alcohol pad with 30 seconds drying time. Align the mounting plate at the selected height and orientation.

Mounting Type	Descriptions
---------------	--------------

Mount the call button using the adhesives at the selected height and orientation.

Figure 3: Mounting the Glass Mount Wi-Fi Call Button



NOTE:

- Use only double-sided adhesive for glass or smooth non-porous surface mounting.
- Use static window cling or decal provided as part of the accessory kit as the signage.

Mounting using screws

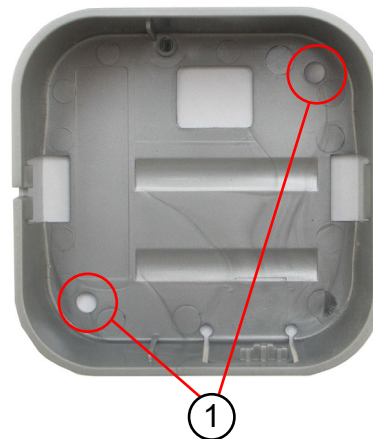
Disassemble the call button by locating the access holes on the outside of the call button and remove the two screws.

Remove the call button cover.

Align the mounting plate at the selected height and orientation.

Locate the two mounting holes in the call button base and screw the base to a wall or any other surfaces.

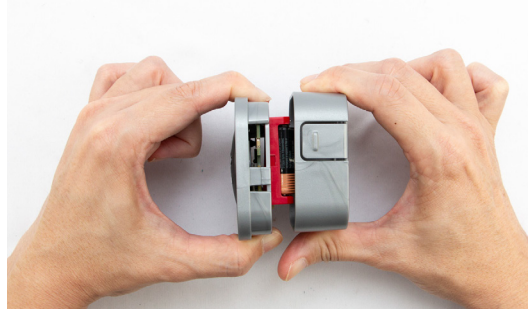
Figure 4: Locating Two Mounting Holes



Mounting Type	Descriptions				
	<table border="1"> <thead> <tr> <th>Label</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Mounting Holes</td> </tr> </tbody> </table>	Label	Description	1	Mounting Holes
Label	Description				
1	Mounting Holes				

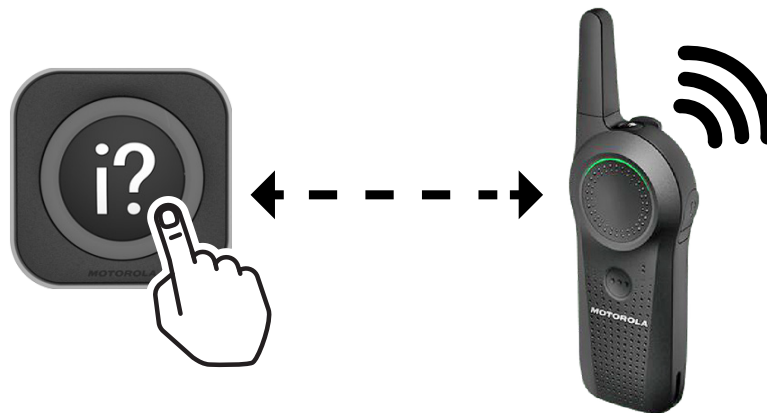
Assemble the call button by aligning the call button cover over the base and insert it until it snaps into the place.

Figure 5: Assembling the Call Button



- To verify the call button functionality, press the **Set** button from the mounting location. Ensure that the message for assistance request is clear and the correct message is broadcast to the radio.

Figure 6: Verifying the Call Button Functionality



4.2

Mounting CB402 Blade Style Wi-Fi Call Button

Prerequisites:

- Disassemble the call button using a small Phillips screwdriver.

- Install the CB402 on a sign blade panel for all installation and mount using the mounting hinges.
- Use the mounting kit that comes with the sign blade panel.

Figure 7: Mounting Kits



Procedure:

1. Identify the mounting height for the call button.

The typical height from the floor is 48 to 54 inches.

The blade panels comes with four standard colors which are red, blue, yellow, and green. See [Accessories on page 31](#) for more information.

Figure 8: Blade Panels



2. Locate the access holes on the outside of the call button and remove the two screws.
3. Remove the call button cover.
4. Insert the blade panel to the call button top hook.

Figure 9: Inserting the Top Hook



5. Hold both the call button and blade panel while inserting the bottom hook.

Figure 10: Inserting Bottom Hook



6. Reassemble the removed cover on the call button.
Ensure the speaker stays on place.

Figure 11: Inserting the Call Button Cover



7. To fasten the call button and the blade panel, insert and tighten the two screws on the call button cover.

Figure 12: Fastening the Screws



8. Connect the plastic hinges to the blade panel.
9. Clean the surface using the alcohol pad with 30 seconds drying time.

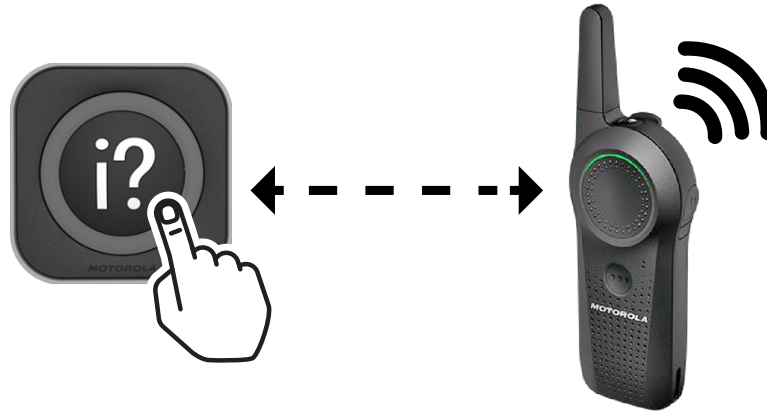
10. Mount the top hinge and then the bottom hinge at required height.

Figure 13: Mounting the Blade Panel



11. To verify the call button functionality, press the **Set** button from the mounting location.
Ensure that the message for assistance request is clear and the correct message is broadcast to the radio.

Figure 14: Verifying the Call Button Functionality



4.3

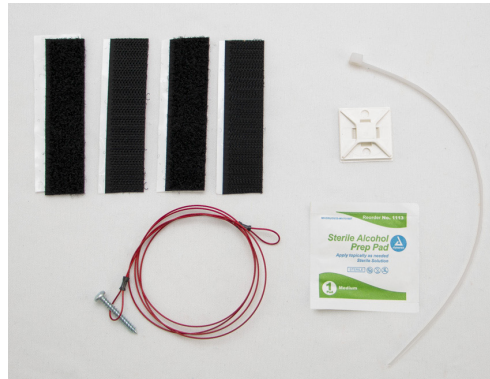
Mounting CB403C Counter Top WiFi Call Button

Prerequisites:

The CB403C must be installed on a base plate for all installations.

Use the mounting kit that comes with the counter top mount.

Figure 15: Mounting Kits

**Procedure:**

1. Identify the mounting height for the call button.

The typical height from the floor is 48 to 54 inches.

The counter top panels come with four standard colors, which are red, blue, yellow, and green. See [Accessories on page 31](#) for more information.

Figure 16: Counter Top Panels



2. Do one of the followings to mount the call button.

Mounting Type

Descriptions

Mounting using Velcro adhesive

Insert the counter top panel into the call button slot.

Figure 17: Inserting the Counter Top Panel



Align the panel until it is fully seated.

Figure 18: Aligning the Panel



Mounting Type**Descriptions**

Figure 19: Blade fully Seated



Attach the Velcro to the call button base.

Clean the surface using the alcohol pad with 30 seconds drying time.

Mount the call button to the counter top.

Figure 20: Mounting the Counter Top Call Button



Mounting using lanyard

Disassemble the mounting plate from the call button base before mounting using a small screw driver or a hard object.

Mounting Type**Descriptions**

Figure 21: Disassemble the Mounting Plate from the Call Button Base



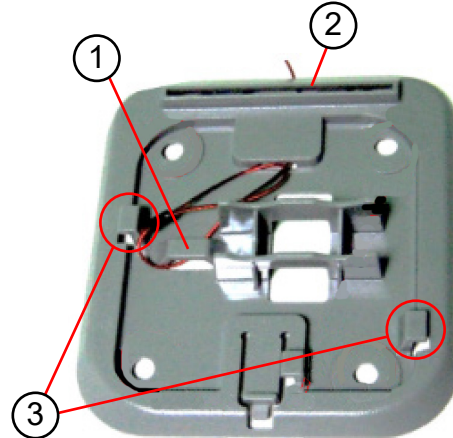
Release the call button latch located at the base by pressing down the latch and move the call button towards you until it is separated from the base.

Figure 22: Removing the Call Button Base



Secure the base mounting plate with the lanyard provided for the CB403C counter top mount.

Mounting Type	Descriptions
---------------	--------------



Label	Description
1	Lanyard support
2	Lanyard slot
3	Housing locking clips

Route the larger loop through the lanyard support.

Route the smaller loop of the lanyard into the larger loop of the lanyard.

Route the smaller loop through the topside slot of the plate.

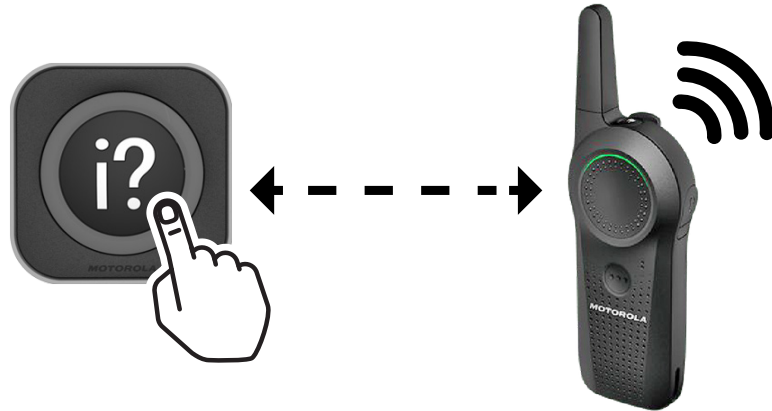


NOTE: Ensure that the lanyard is not interfering with the housing lock clips when reattaching the call button.

Mount the call button to the counter top and secure the call button using the screw.

- To verify the call button functionality, press the **Set** button from the mounting location. Ensure that the message for assistance request is clear and the correct message is broadcast to the radio.

Figure 23: Verifying the Call Button Functionality



4.4

Mounting CB403W Wall Mount Wi-Fi Call Button

Prerequisites:

- The CB403W must be installed on a base plate for all installations.
- Use the mounting kit that comes with the wall mount call button.

Figure 24: Mounting Kits



Procedure:

1. Identify the mounting height for the call button.
The typical height from the floor is 48 to 54 inches.

2. Disassemble the mounting plate from the call button base before mounting using a small screw driver or a hard object.

Figure 25: Disassemble the Mounting Plate from the Call Button Base

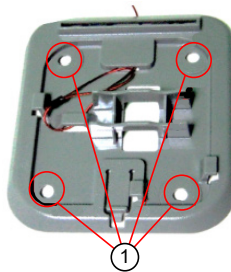


3. Release the call button latch located at the base by pressing down the latch and move the call button towards you until it is separated from the base.

Figure 26: Removing the Call Button Base



4. Remove black rubber feet from the mounting holes.

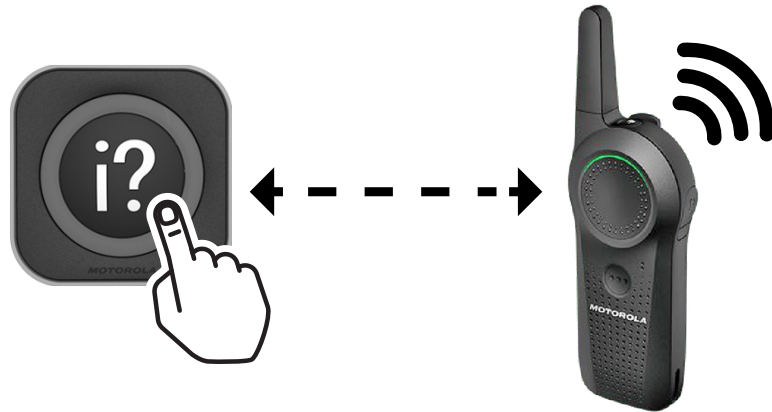


Label	Description
1	Mounting Holes

5. Insert the plugs and screw into the call button base.
6. Mount the call button at the selected height and orientation.
7. To verify the call button functionality, press the **Set** button from the mounting location.

Ensure that the message for assistance request is clear and the correct message is broadcast to the radio.

Figure 27: Verifying the Call Button Functionality



Chapter 5

Accessories

Table 4: CB401 Glass Mount Wi-Fi Call Button

Part Number	Description
HKLN5025_ ¹	CB401 Static Window Cling

Table 5: CB402 Blade Style Mount Wi-Fi Call Button

Part Number	Description
HKLN5015_	CB402 Blade Panel, SPG-T-100, Red with Holder, Sign, Hinged, Adhesive Mount
HKLN5016_	CB402 Blade Panel, SPG-T-101, Blue with Holder, Sign, Hinged, Adhesive Mount
HKLN5017_	CB402 Blade Panel, SPG-T-102, Yellow with Holder, Sign, Hinged, Adhesive Mount
HKLN5018_	CB402 Blade Panel, SPG-T-103, Green with Holder, Sign, Hinged, Adhesive Mount
HKLN5023_	CB402 Holder, Sign, Hinged, Adhesive Mount, Clear PVC, 3 inches long, set 2
HKLN5024_	CB402 Holder, Sign, Hinged, Adhesive Mount, Clear PVC, 3 inches long, set 10

Table 6: CB403C Counter Top Mount Wi-Fi Call Button

Part Number	Description
HKLN5019_	CB403C Sign Panel, SP65-A100, Red
HKLN5020_	CB403C Sign Panel, SP65-A101, Blue
HKLN5021_	CB403C Sign Panel, SP65-A102, Yellow
HKLN5022_	CB403C Sign Panel, SP65-A103, Green

¹ HKLN5025A is included in CB401.