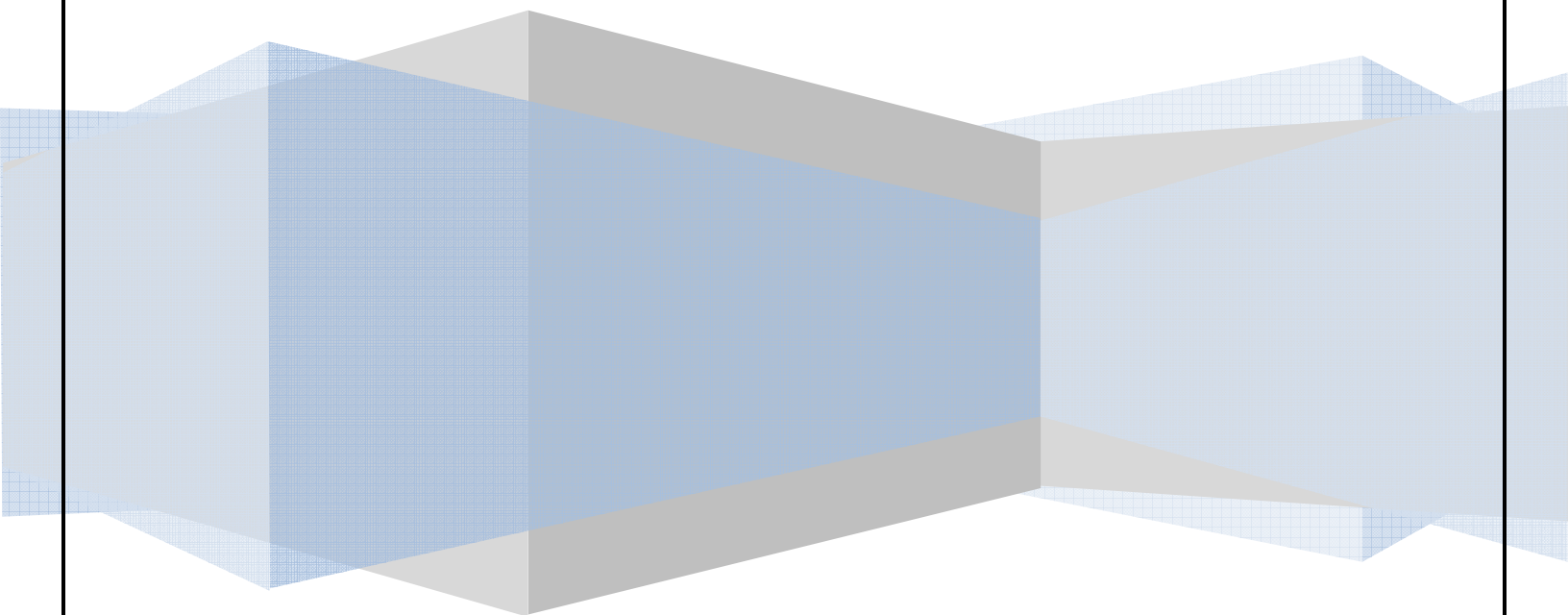


CoSTAR Technologies

[www.costartech.com](http://www.costartech.com)

# BlueSTAR - Class 2

Installation and Operation manual



# Welcome

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Welcome to CoSTAR's connected world of Bluetooth personal area wireless networking. The CoSTAR BlueSTAR Class2 wireless hands-free car kit makes wireless connection simple and quick.

The advanced, sophisticated BlueSTAR Class2 wireless hands-free car kit offers these features:

- Seamless, wireless hands-free audio through Bluetooth link
- Digital audio interface with high quality, full duplex hands free speech
- Uses voice dialing in your phone (if available)
- Entertainment mute – automatically mutes radio during calls
- Noise reduction and acoustic echo cancellation
- Integrated volume control
- Ignition sense – continue an active call after the car is turned off
- Compatible with Bluetooth 1.2 and backwards compatible with Bluetooth 1.1 devices – supports Headset and Handsfree profiles

Note: The use of wireless devices and their accessories may be prohibited or restricted in certain areas. Always obey the laws and regulations on the use of these products.

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# *Safety and General Information*

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## **IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION. READ THIS INFORMATION BEFORE USING YOUR DEVICE.**

Users are not permitted to make changes or modify the device in any way. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. See 47 CFR Sec. 15.21.

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. See 47 CFR Sec. 15.19(3).

### ***Electromagnetic Interference/Compatibility***

Note: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility.

### **Facilities**

To avoid electromagnetic interference and/or compatibility conflicts, turn off your device in any facility where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy.

### **Aircraft**

When instructed to do so, turn off your device when on board an aircraft. Any use of a device must be in accordance with applicable regulations per airline crew instructions

### **Medical Devices – Hearing Aids**

Some devices may interfere with some hearing aids. In the event of such interference, you may want to consult with your hearing aid manufacturer to discuss alternatives.

### **Other Medical Devices**

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

### **Industry Canada Notice to Users**

Operation is subject to the following two conditions: (1) This device may not cause interference and (2) This device must accept any interference, including interference that may cause undesired operation of the device Ref IC RSS 210 Sec. 5.11. The term “IC:” before the certification/registration number only signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment. See Ref IC Self-Marking 6(f) and RSP-100 Sec. 4.

### **FCC Notice to Users**

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 a 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 and correct the interference by one or more of the following measures:

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

# *Installing the Hands-free Kit*

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## *Guidelines for Installation and Connection*

- Only Qualified personnel should install this car kit. If necessary, contact with vehicle manufacturer for air bag information specific to the vehicle.

**Caution:** An air bag inflates with great force. DO NOT place objects, including communication equipment, in the area over the air bag or in the air bag deployment area. If the communication equipment is improperly installed and the air bag inflates, serious injury could occur.

- Mount components securely on strong surfaces to prevent shifting that could cause injury or interfere with safe vehicle operation. Always use the supplied mounting hardware.
- Mounted components and attached wires or cables must not interfere with seating or leg space.
- Route cables so they are protected from pinching, sharp edges, and crushing. Keep all in-line connectors easily accessible.
- This car kit is intended for use in 12 volt negative ground systems only. The car kit draws less than 3 Amps. Confirm that the vehicle's electrical system can supply this current.

# *Installation Procedure*

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**Caution:** This car kit must be connected to a maximum 5A fuse in the car fuse panel to prevent fire or other damages if a short circuit should occur somewhere in the unit.

Before installation, unpack, assemble, and test all components on a service bench.

## *Locate OnStar<sup>1</sup> equipment*

Using information found in your service manual, locate the OnStar VIU module. Since the car kit utilizes the same connections as the OnStar equipment, it is most convenient to locate car kit where the OnStar equipment is located.

Disconnect and remove the OnStar VIU and cellular device as well as the interconnecting harness.

## *Installing the Bluetooth Junction Box*

Mount the box using the screws provided.

For optimal Bluetooth performance, mount the junction box so that the side with the barcode faces away from the mounting surface.

The location **MUST NOT** interfere with the vehicle's air bag deployment.

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<sup>1</sup> OnStar is a registered trademark of General Motors Corporation

## ***Installing the Harness***

Using the interface harness (sold separately), connect the car kit to the vehicle and insure that both connectors are locked in and secured so that the harness is protected from pinching or sharp edges. Utilize tie wraps as needed.

## ***System testing and final assembly***

Prior to replacing any panels that were removed during installation of the car kit, it is recommended to validate functionality of the car kit by following the directions listed below.

After successful testing, replace all panels following the instructions found in the service manual for your vehicle.



# Using Your Car Kit

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## *The User Interface*

The user interface enables you to set up and use the BlueSTAR Hands-free car kit. It utilizes the OnStar buttons and LED indicator found on the rear view mirror.



## *Linking Your Car Kit and Phone*

Before you can use this car kit, you must link it with your phone. You establish a Bluetooth link between your car kit and phone with a *paired link*.

When you set up a paired link, the car kit remembers the phone's ID. Once the car kit and phone are paired, your car kit automatically connects to your phone every time you start your vehicle or power up the car kit.

## *Initial Pairing*

With the car kit and phone in close proximity:

1. If the indicator LED is flashing GREEN: Press and hold the Multi-Function button until it stops flashing.
2. Press and hold the Multi-Function button until the indicator LED flashes GREEN
3. Perform a device discovery from the phone. For details on device discovery for your phone, refer to the phone's user guide. Your phone scans all Bluetooth Handsfree devices around it, and displays a list of the devices it finds.
4. Select Motorola HF850 from the list of devices.
5. Enter the passkey **0000** when prompted, and press the OK key.
6. Follow the phone's display prompts to confirm the connection.

## ***Automatic Connection***

After initial pairing, every time you start your vehicle, your phone and car kit will be automatically connected (if your phone's relevant settings are not changed and it is in power on mode). When the wireless connection is established, the GREEN led remains on.

If your phone is powered off when you start your vehicle, the Bluetooth connection may not be automatically established when you turn on your phone.

To manually establish the connection:

1. Turn on the phone.
2. Press the Multi-Function button. The GREEN led will begin to flash, and the car kit will attempt to connect to your phone. If the wireless connection is established, the GREEN led will stop flashing and remain lit. If the connection is not established in 1 minute, press the Multi-Function button again to restart the paging.

## ***Placing a Call with the Car Kit***

You can place a call with the car kit in these ways:

- Dial a number from the phone.
- Press the Voice Dial Button and follow the phone's instructions for voice dialing.
- Press and hold the Multi-Function button for three seconds to redial the last number.

In all cases, you must first link your car kit and phone as described in “Linking Your Car Kit and Phone” on page 9.

When connected, the call is hands-free.

### *Answering a Call with the Car Kit*

While the phone is ringing, answer the call by briefly pressing the Multi-Function button. The indication led will be RED during a call.

You can reject the call by holding the Multi-Function button for three seconds.

Note: Performance may vary on different phones. For example, for some phones (such as Ericsson’s T68), rejecting an incoming call can break the Bluetooth link.

### *Using Features While on a Call*

Note: To use the functions described below, a Bluetooth link must be established between the car kit and your phone. Most phones automatically activate a Bluetooth connection when you place a call.

### *Transferring a Call*

#### **From the car kit to your phone:**

During a call, press and hold the Voice Dial Button for more than three seconds. (Most phones prompt you to accept the transfer before completing the transfer.)

### **From your phone to the car kit:**

During a call, press and release the Multi-Function button. (Some phones require you to press and hold the Multi-Function button twice. See the user's guide for your phone for more information.)

### ***Muting and Unmuting a Call***

To mute the microphone during a call, press the Microphone Mute button. The indication LED will alternate between GREEN and RED and the other party will not be able to hear you.

To un-mute the call, press the Microphone Mute button again. The indication LED will go back to a steady GREEN.

### ***Receiving a Second Call***

If you receive a call while you already have a call in progress, you can end the current call or place it on hold while you answer the second call.

Note: Your car kit supports second call notification with phones that support the Handsfree profile. To see what your phone supports, please consult your phone's user guide.

- To reject the second call, press and hold the Microphone Mute button for three seconds.
- To end the current call and answer the second call, press the Multi-Function button for one second.

- To put the current call on hold and answer the second call, hold the Multi-Function button for three seconds.

To switch between the active and held calls, hold the Multi-Function button for three seconds. To end a call on hold, press the Voice Dial button for one second.

**Note:** Call waiting is a subscription-dependent feature. Contact your network service provider for more information.

## *Using Three-Way Calling*

**Note:** Your car kit supports three-way calling features with phones that support the Handsfree profile. To see what your phone supports, please consult your phone's user guide.

Three-way calling is a subscription-dependent feature. Contact your network service provider for more information.

If a call is in progress and another call is incoming or on hold, press the Voice Dial Button and the volume down buttons (if available on the steering wheel) for three seconds to create a three-way conference call.

**Note:** Some phones may require you to press the Voice Dial Button and Volume Down buttons together for three seconds twice.

**Tip:** You can reject the second incoming call by holding the Microphone Mute button for three seconds.

## ***Volume Control***

Press the volume buttons on the steering wheel to increase and decrease the volume.

If you press and hold a volume button, the volume is automatically increased or decreased to the highest or lowest step.

You can also adjust the volume remotely by pressing the phone's volume buttons, if your phone supports this feature.

## ***Using the Car Kit When the Ignition is Off***

When your car ignition is off, you can connect the car kit to the last phone it used by pressing the Multi-Function button for 1 second.

The indication LED will flash GREEN as the car kit tries to connect to the phone. When the car kit connects, the indication LED will remain GREEN.

If the car kit does not connect in 1 minute, or connects but does not detect any sound for 1 hour, it shuts off.

## ***Disconnecting the Car Kit from your Phone***

To disconnect the car kit from your phone, press and hold the Voice Dial Button for more than three seconds.

The car kit and phone are automatically disconnected when you turn off the vehicle, unless you are on an active call.



# Troubleshooting

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You cannot pair your phone with the car kit.

Turn the phone off and then back on. (You may need to remove the phone's battery.) Try pairing the phone and car kit again.

Verify that your phone supports Bluetooth capability

# Calling Features Quick Reference

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State	Action	Indication
<b>Off</b>	IGN is removed and no call is active	None
<b>Pairing</b>	Press the Multi-Function button for 3 seconds	Flashing GREEN
<b>Paging (Attempting connection)</b>	Press the Multi-Function button for 1 second.	Flashing GREEN
<b>Standby and Not Connected</b>	Car kit is able to connect to a previously paired phone	None
<b>Connected</b>	Car kit is connected to a phone	Solid GREEN
<b>Call in Progress</b>	Car kit is connected to a phone and audio is available	Solid RED
<b>Mute Call</b>	Press Microphone Mute button for 1 second.	Alternating GREEN / RED

State	Action	Indication
<b>UnMute Call</b>	Press Microphone Mute button for 1 second.	Solid GREEN
<b>Last Number Dialed *</b>	Car kit is connected to a phone. Press Multi-Function button for three seconds.	Solid GREEN
<b>Reject Incoming Call *</b>	Car kit is connected to a phone. Press Multi-Function button for three seconds.	Solid GREEN
<b>Voice Recognition Activation</b>	Car kit is connected to a phone. Press Voice Dial Button for 1 second.	Solid GREEN
<b>Disconnect from Phone</b>	Car kit is connected to a phone. Press Voice Dial Button for three seconds.	NONE

State	Action	Indication
<b>Answer Call</b>	Car kit is connected to a phone. Press Multi-Function button for 1 second.	Solid RED
<b>End Call</b>	During a call, press Multi-Function button for 1 second.	Solid GREEN
<b>Transfer Call to Phone *</b>	During a call, press Voice Dial Button for 3 seconds.	Solid GREEN
<b>Volume Up (Single Step)</b>	During a call, press volume up button for 1 second.	Tone indicates volume increase.
<b>Volume Up (Continuous)</b>	During a call, press and hold volume up button.	Tone indicates volume increase, different tone when maximum volume is achieved.

State	Action	Indication
<b>Volume Down (Single Step)</b>	During a call, press volume down button for 1 second.	Tone indicates volume decrease.
<b>Volume Down (Continuous)</b>	During a call, press and hold volume down button.	Tone indicates volume decrease, different tone when minimum volume is achieved.
<b>Place Call on Hold *</b>	One call is in progress and the other is alerting. Press Multi-Function button for 3 seconds.	Solid RED
<b>Answer incoming call and end current call. *</b>	One call is in progress and the other is alerting. Press Multi-Function button for 1 second.	Solid RED

State	Action	Indication
<b>Toggle Held Calls *</b>	One call is in progress and the other is on hold. Press Multi-Function button for three seconds.	Solid RED
<b>Create Three Way Call *</b>	One call is in progress and the other is on hold. Press volume down and Voice Dial Button together for 3 seconds	Solid RED
<b>End Held Call *</b>	One call is in progress and the other is on hold. Press Voice Dial Button for 1 second.	Solid RED
<b>Reject 2<sup>nd</sup> Incoming call *</b>	One call is in progress and the other is alerting. Press Microphone Mute button for 3 seconds.	Solid RED

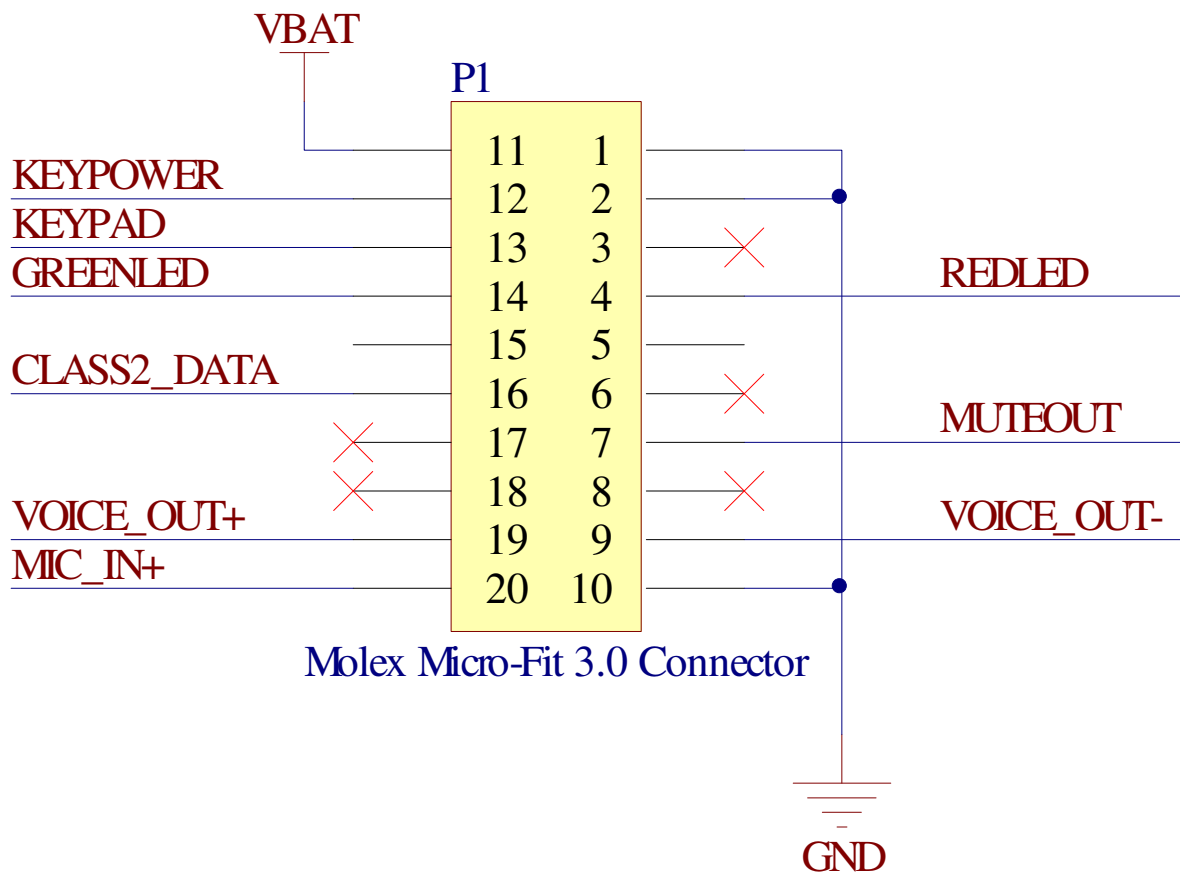
\* Requires Handsfree Profile Connection

# Appendix A – Connector I/O

**Caution:** This car kit must be connected to a maximum 5A fuse in the car fuse panel to prevent fire or other damages if a short circuit should occur somewhere in the unit.

Do not connect any to any pins not identified below or possible damage to the car kit may occur.

## VEHICLE INTERFACE



## CoSTAR Limited 1 Year Warranty for Accessories

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Coverage: CoSTAR Technologies warrants this accessory against defects in materials and workmanship under normal consumer use for one year from the date of purchase. CoSTAR, at its option, will at no charge repair, replace or refund the purchase price of this accessory should it not conform to this warranty. This limited warranty is a consumer's exclusive remedy, extends only to the first consumer purchaser, is not transferable and is valid only on Accessories purchased by consumers in the United States or Canada.

**Exclusions:**

**Normal Wear and Tear:** Periodic maintenance, repair and replacement of parts due to normal wear and tear are excluded from coverage.

**Batteries:** Only batteries whose fully charged capacity falls below 80% of their rated capacity and batteries that leak are covered by this limited warranty.

**Miscellaneous:** This warranty does NOT cover defects or damage that results from: (a) improper operation, storage, misuse or abuse, accident, or neglect, such as physical damage (cracks, scratches, etc.) to the surface of the Accessory resulting from misuse; (b) contact with liquid, water, rain, extreme humidity or heavy perspiration, sand dirt or the like, extreme heat, or food; (c) use of the accessory to abnormal usage or conditions; (d) service, installation, alteration, or modification in any way by someone other than CoSTAR, and (e) other acts which are not the fault of CoSTAR.

Obtaining Service: To obtain service information, please e-mail [service@costartech.com](mailto:service@costartech.com) and you will receive instructions on how to ship the accessory at your expense, to a CoSTAR service center.



## What Other Limitations are there?

ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY, OTHERWISE THE REPAIR, REPLACEMENT, OR REFUND AS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER, AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. IN NO EVENT SHALL CoSTAR BE LIABLE, WHETHER IN CONTRACT OR IN TORT (INCLUDING NEGLIGENCE) FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE ACCESSORY, OR FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, SOFTWARE OR APPLICATIONS OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE ABILITY OR INABILITY TO USE THE ACCESSORY OR ANY PRODUCT USED WITH THE ACCESSORY TO THE FULL EXTENT THESE DAMAGES MAY BE DISCLAIMED BY LAW.

Some states and jurisdictions do not allow the limitation on exclusion of incidental or consequential damages, or limitation on the length of the implied warranty, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state or from one jurisdiction to another.