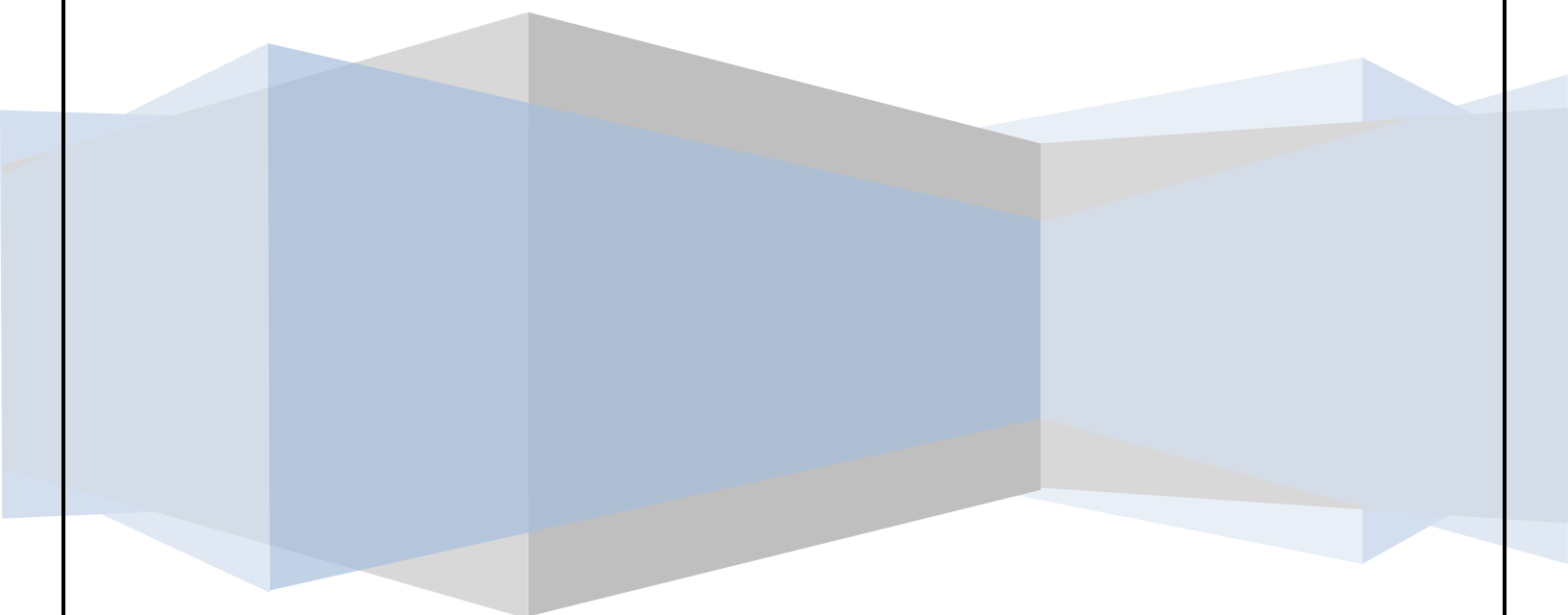


CoSTAR Technologies

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

# HyperSTAR - 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 HyperSTAR Class2 radio mute kit makes muting your GM radio simple and quick.

The advanced, sophisticated HyperSTAR Class2 radio mute kit offers these features:

- Entertainment mute – automatically mutes radio when external signal is grounded
- Amplifier Switching – Switches amplifier to aux mono input for driving front left speaker
- Integrated volume control
- Ignition sense – continue an active call after the car is turned off
- Compatible with all external Bluetooth Hands free car kits.

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 HyperSTAR 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 site*

The HyperSTAR can be mounted anywhere that is convenient. Ideally, it will be close to the class2 data bus. The unit should be protected from damage and should not interfere in any way with an airbag system.

If you have an onstar system installed, disconnect and remove the OnStar VIU and cellular device as well as the interconnecting harness.

Mount the HyperSTAR using the screw holes provided.

Again, the location MUST NOT interfere with the vehicle's air bag deployment.

## *Installing the Harness*

Using the interface harness connect the car kit to the vehicle and insure that the connector is 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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## *Mute Control*

Connect the yellow wire to ground to activate the mute function. Alternatively it can be connected to the mute output of a hands free car kit. Ensure that this is an active low signal (goes low to mute). To un-mute the radio, simply disconnect the mute from ground.

## *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.

# Troubleshooting

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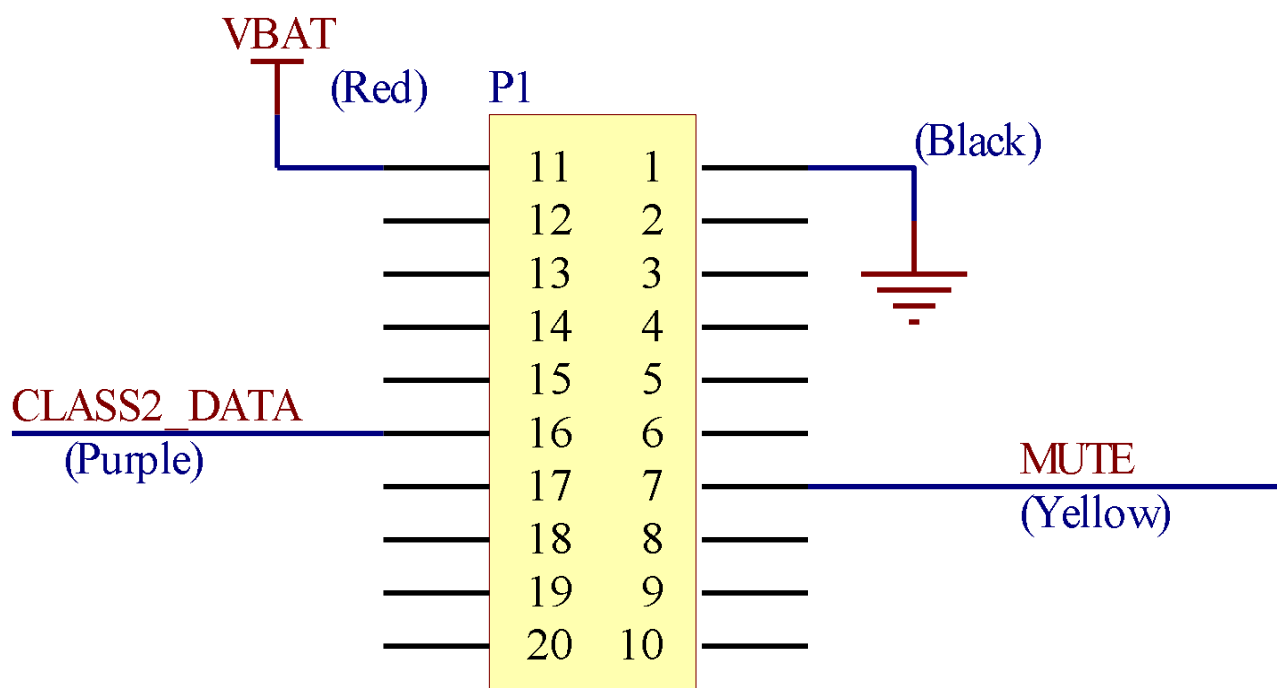
Your radio does not mute.	<p>Verify that the unit is receiving +12V at Pin 11 (Red wire)</p> <p>Verify that the unit is Grounded at pin 1 (Black wire)</p> <p>Verify that the Mute signal is low (&lt; 1VDC) (Yellow wire)</p> <p>Verify that the Class2 data bus is properly connected. (Purple Wire)</p> <p>Verify that your radio supports mute capability through class2 data protocol</p>
Your radio does not un-mute.	<p>Verify that Mute signal is high (&gt; 5VDC) (Yellow wire)</p>

## 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.