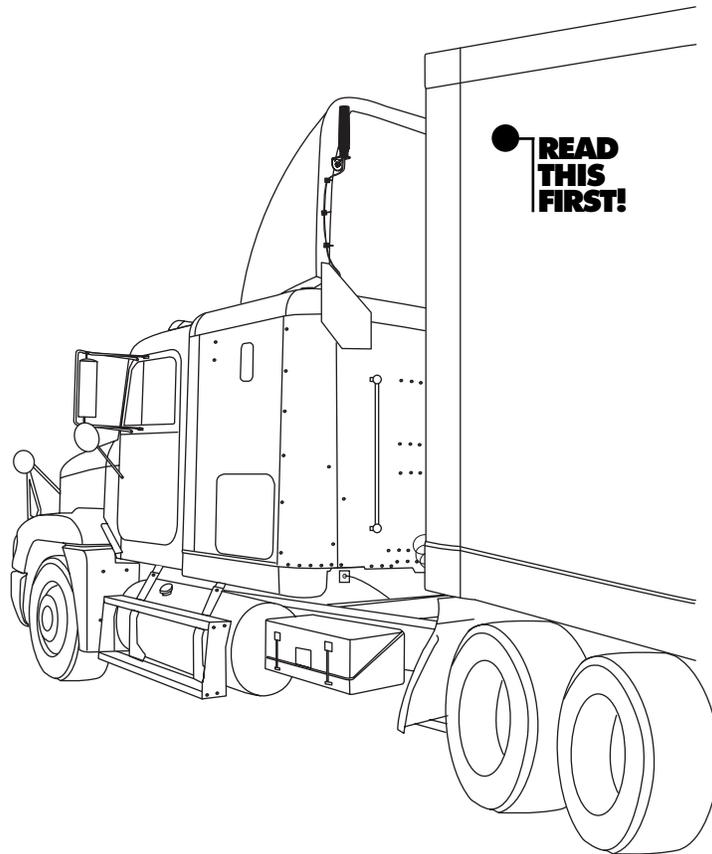


TERK[®]

OWNER'S MANUAL



XM4-CLIP

LONG-HAUL TRUCK AND RV
CLIP-MOUNT SATELLITE RADIO ANTENNA



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About Installation

Installation of automotive audio components can require extensive experience with a variety of mechanical and electrical procedures. Although the instructions in this guide explain how to install the TERK XM4-CLIP Clip-Mount Satellite Radio Antenna in a general sense, they do not show the exact installation methods for your particular vehicle.

IMPORTANT: If you are not comfortable performing a complex installation, ask your local mobile audio dealer about professional installation options.





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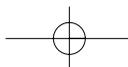
Introduction

The TERK XM4-CLIP Clip-Mount Satellite Radio Antenna is a high-performance antenna designed specifically for XM Satellite Radio reception on long-haul trucks and RVs (recreational vehicles). It has dual-mode functionality, receiving simultaneous signals from satellites and terrestrial repeaters, to ensure continuous reception. Its features include:

- Ground-plane independent design for convenient installation on a truck's air dam, shield, or flap or the top of an RV
- Rugged antenna to withstand high-vibration road environment
- Mounts high on the vehicle for maximum, line-of-sight, signal path from XM satellites
- Pre-assembled, flange-mount clamp for easy antenna installation
- 30' of attached low-loss, coaxial cables and FAKRA connectors for extended cable routes and ease of installation
- Cable management system to protect cable routing
- High performance to meet XM Satellite Radio specifications for mobile antennas
- Shock- and vibration-proof design
- Tested and approved for ice and wind loads according to TERK Specification TRK-10011.a

The TERK XM4-CLIP Clip-Mount Satellite Radio Antenna is easy to install on most vehicles. The package includes all the necessary mounting hardware, as well as color-coded cable connectors to ensure complete compatibility with all XM receivers. Remember to save your sales receipt and this guide so both are available for future reference.

NOTE: To achieve best XM Satellite Radio reception, also refer to your XM radio's owner's manual.



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Applications

The TERK XM4-CLIP Clip-Mount Satellite Radio Antenna is designed to be installed on an RV top or a truck's air dam, shield, flap, or other flat-panel surface, as shown in Figure 1.

NOTE: Installation on tubular surfaces is not recommended.

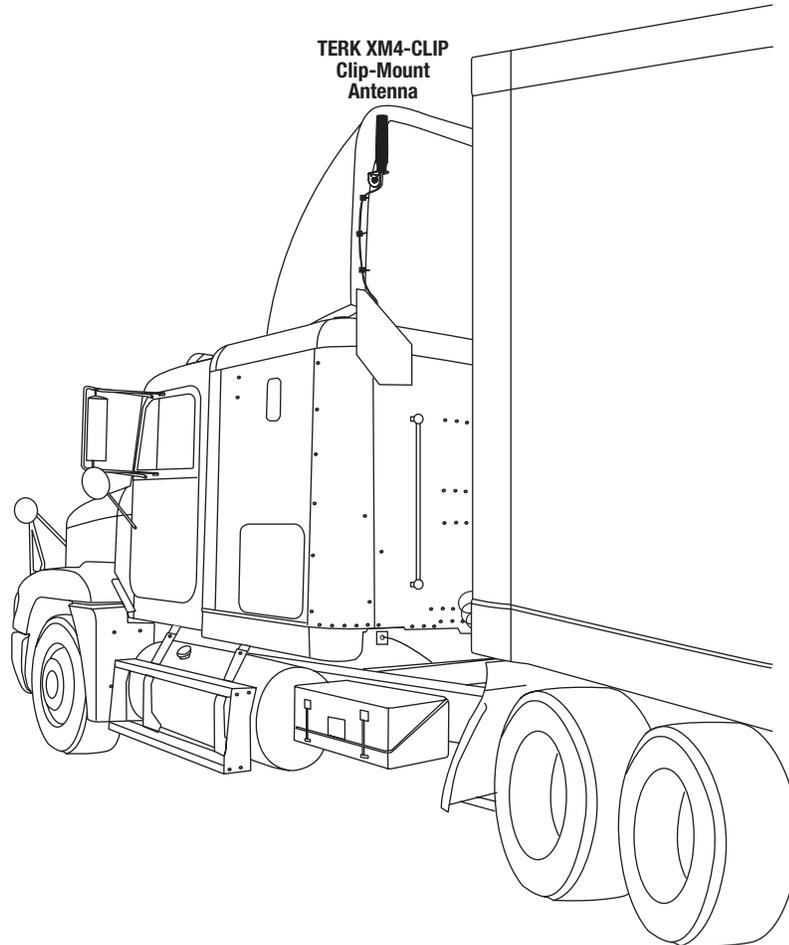


Figure 1. The TERK XM4-CLIP Clip-Mount Satellite Radio Antenna is shown installed on a fiberglass air dam of a long-haul truck.

XM4-CLIP Clip-Mount Owner's Manual

Installation

Parts for TERK XM4-CLIP Clip-Mount Antenna

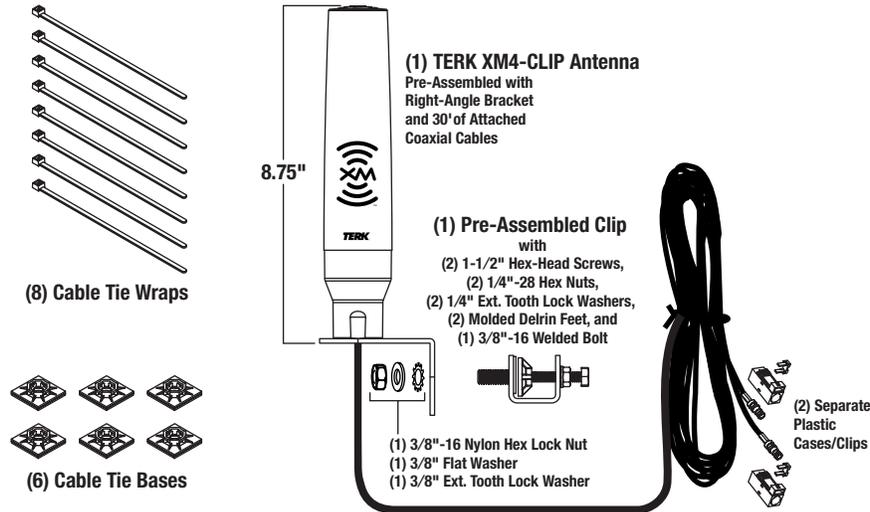


Figure 2. Verify that your TERK XM4-CLIP Clip-Mount package includes the above items.

NOTE: All metal mounting hardware is stainless steel.

Recommended Tools and Supplies

- Any socket tool/wrench set (to tighten machine bolts and hex nuts)
- Any tool to help cable routing (e.g., flat dental pick, screwdriver, etc.)
- Grommets and silicone sealer (for cable routes)

Installation Precautions and Tips

- When selecting an antenna location, make sure the antenna is not enclosed by any metal material. **If an air dam is metal**, the antenna must protrude at least 5 inches above the dam's top edge.
- Also, at the proposed site, verify that there is at least a 20-degree clearance from any metallic obstruction on all sides, including any metal hardware and exhaust stacks, as shown in Figure 3 (on the next page).

NOTE: Installing a TERK XM4-CLIP Clip-Mount Satellite Radio Antenna behind a non-metallic air shield or dam is acceptable.

- Prior to installation, turn off all audio systems and other electrical devices. Disconnect the (-) negative lead from the vehicle's battery.
- At the installation site, locate and make a note of all fuel lines, hydraulic brake lines, and electrical wiring. Use extreme caution when cutting or drilling in and around these areas. Always wear protective eyewear when using tools.

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Installation

Installation Precautions and Tips (continued)

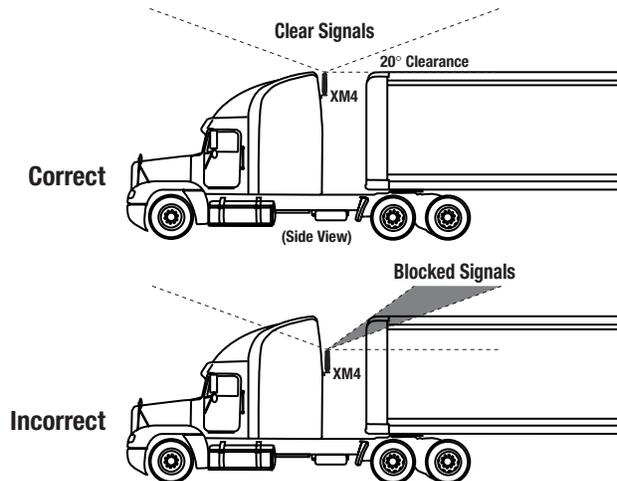


Figure 3. Correct and incorrect TERK XM4-CLIP locations on a long-haul truck.

- As you plan the cable route, avoid running cables through components that may cause excessive chafing. Doing so may erode the jacket and break signal continuity. Also, avoid kinking, pinching, excessive bending, or twisting a cable during a run.
- Do not trim the cable length. It is optimized for best signal reception. Coil and store any excess cable behind the XM receiver.

Installing The TERK XM4-CLIP Clip-Mount Antenna

1. Using the enclosed hardware, install the pre-assembled antenna and bracket onto the bolt of the pre-assembled clip (see Figure 4 on the next page).
2. At the chosen site, attach and secure the pre-assembled clip (with pre-assembled antenna) to the edge of an air dam or flap, as shown in Figure 5 (on the next page).
3. Route the cable to the back of the XM receiver using any of the following ways:
 - Through an existing access hole at the back of the truck's cab, or
 - Through an existing access hole up through the cab's floor board, or
 - Through the cab's corner vent window.

NOTE: Do not install the plastic cases if you are using a Sony XM Radio Receiver.

5. If the XM system is not already installed, temporarily connect power and ground. Then connect the XM4-CLIP antenna cables to your XM receiver, as directed by the receiver's manufacturer (see Figure 7 on page 8).

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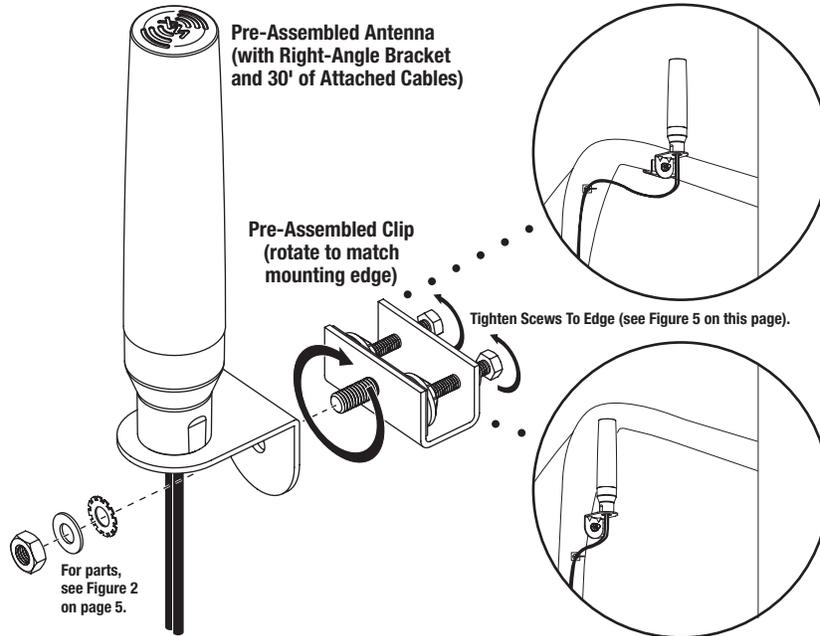


Figure 4. Installing the TERK XM4-CLIP antenna to the clip.

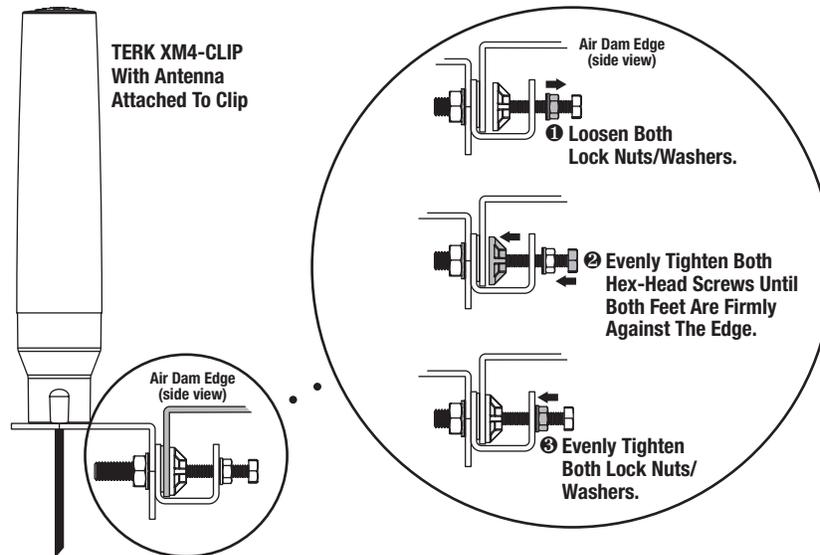


Figure 5. Installing the TERK XM4-CLIP antenna with clip onto an air dam.

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Installation

Installing The TERK XM4-CLIP Clip-Mount Antenna (continued)

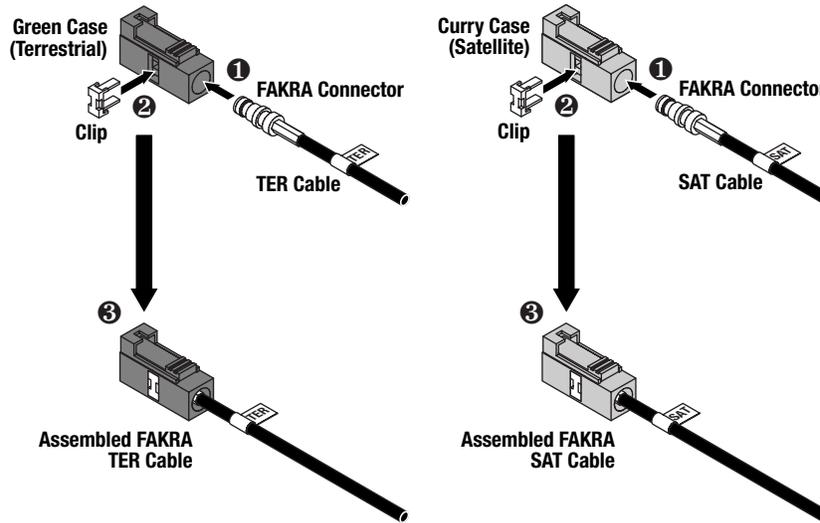


Figure 6. Inserting the FAKRA SMB connectors into plastic cases.

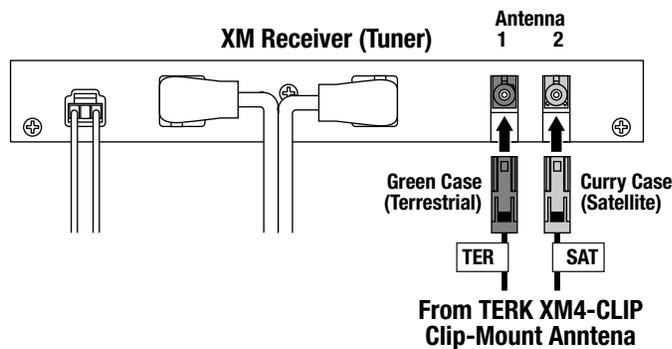


Figure 7. Wiring diagram shows antenna connections to an XM receiver.

7. Turn on the XM system and tune the radio to channel one (i.e., the preview channel) to verify that the antenna is properly installed. If there are any problems, review the installation steps and verify that each one was performed correctly. Also see *Troubleshooting* on the next page.
8. After the system has been tested successfully, continue routing the cables from the antenna to the receiver for best appearance and complete the remaining installation. Use the supplied cable tie wraps and bases to secure cables from flagging in the wind and catching on objects.

NOTE: For additional help with cable routing, consult your local mobile audio dealer.



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Use and Care

In normal daily use, the TERK XM4-CLIP Clip-Mount Satellite Radio Antenna is a rugged, high-performance antenna that does not require any special attention.

Troubleshooting

Symptom

XM radio displays "Antenna" or "Check Antenna" message

XM radio displays "No Signal" message

Other symptoms

Solutions

- Check antenna connections to the XM receiver.
- Vehicle may be in an area where the XM signal may be too weak. Move the vehicle outdoors or to a location which has fewer buildings.
- Call TERK for help at 1-800-942-TERK (8375) on any business day, between 9 a.m. and 5:30 p.m., EST and ask for Technical Support.

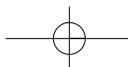
Specifications

Electrical Specifications

Passive Satellite and Terrestrial Antenna Element –

Frequency:	2332.5 to 2345.0 MHz
Gain –	
Terrestrial:	- 1 dBi
Satellite:	2 dBic
Bandwidth:	12.5 MHz
Impedance:	50 ohms
Elevation Plane Field of View –	
Terrestrial:	0°, elevation
Satellite:	25° to 60°, elevation
Azimuth Plane Field of View:	Omnidirectional
Polarization –	
Terrestrial:	Linear Vertical
Satellite:	LHCP (Circular)

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Specifications

Electrical Specifications (continued)

LNA for Both Satellite and Terrestrial Signals –

Gain:	30 dB, typical
Noise Figure –	
Terrestrial:	2.0 dB, maximum
Satellite:	1.2 dB, maximum
Dc Bias:	4.5 Vdc, nominal
Current Drain:	55 mA, maximum
Filter Attenuation:	25 dB, minimum

Cable (for Terrestrial and Satellite) –

Type:	Coaxial
Length:	30 feet

Connectors –

Terrestrial:	FAKRA/SMB (Key Code: E, Color: Green)
Satellite:	FAKRA/SMB (Key Code: K, Color: Curry)

Mechanical Specifications

Antenna –

Radome Height:	6.25 inches
Radome Diameter:	1.50 to 1.75 inches
Radome Material:	Dark Gray Polycarbonate

Antenna Base –

Height:	2.50 inches
Diameter:	Up to 1.875 inches
Material:	Aluminum

Flange Mount Hardware –

Screws, Nuts, and Washers:	Stainless Steel
Feet:	Molded Delrin

Rated Wind Velocity: 100 mph, fatal velocity

Weight: 4.5 lbs





XM4-CLIP Clip-Mount Owner's Manual

Other Specifications

Temperature: -40 °C to +105 °C, operating
-45 °C to +120 °C, storage

Quality and Performance Tests –

XM Approved:	Per Specification XM-TEC-3-0009-RD
TERK Approved:	Per Environmental Specification TERK TRK-10011.a
TERK QA:	Shock and Vibration Proof

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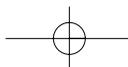
Limited Warranty

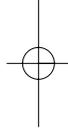
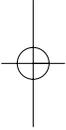
TERK Technologies Corp. (Terk) warrants this product against defects in materials or workmanship for 1 year from the date of purchase. During this warranty period this product will be replaced without charge. This warranty does not cover any damage due to act of God, commercial use, accident, misuse, abuse or negligence.

This warranty is only valid in the USA. Replacement as provided under this warranty is the exclusive remedy of the consumer. Terk shall not be liable for any incidental or consequential damages for breach of any expressed or implied warranty on this product, except to the extent prohibited by applicable law. Any implied warranty or merchantability or fitness for a particular purchase on this product is limited to the duration of this warranty.

About XM Satellite Radio

For more information about XM Satellite Radio service, visit their web site at: www.xmradio.com





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*For Technical Support:
1.800.942.TERK (8375)*



*Visit our web site for information
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