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Installing CB Into 4x4's Fitting the Aerial & Mount / Fitting a Dome Mount

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There are 3 main versions of the dome mount - the usual one is the one pictured here - the Dome 3/8" which is suitable for most of the aerials we sell. We also do a version for 3/8" aerials which can be adjusted for angle (Dome RM) and a version for installing PL/SO239 aerials like the Sirio Hi-Power... the method of fitting these different types is identical, it's only the aerial connection on top which is different. Most of the photos below show the 3/8" version as that's the most commonly installed one but we also show the other types further down this page

Installing any of our Dome mounts is pretty easy...

What you need to do is :

Drill a 13mm hole in whatever surface you want to mount this to, and scrape away a bit of paint on the underside to make a metal-to-metal earth connection - the points of the "three pronged washer" need to touch this bare metal. Tighten the nut to secure the mount in place and the job is done.

(There is a way of getting an earth connection without making metal-to-metal connection at the mount - see the "Installing without metal-to-metal connection" section below)

You will need an SWR meter (a basic and easy to use test meter) to make sure you have a good earth between the mount itself and the underside of whatever you have fitted it to. If you don't have a good earth, you will have a very high SWR, and this can damage the CB, so to be sure you should check it with an SWR meter.

Most of our aerials (Springers etc) are about the right length to give a good SWR reading if all other factors are ok (some suppliers call this "Pre-SWR'd" which is rather misleading as a good SWR depends on a number of factors, not just the aerials length), but using the meter to check, and fine tune (usually by adjusting the aerials length) if necessary, as well as check that you have a good earth/ground plane, is essential.

Read our [SWR meter guide](#).

Dome Mount Physical Specs :

- Diameter (i.e. it's "footprint") : 40mm
- Hole size needed : 12.5mm
- Maximum mounting surface thickness : 7mm
- Clearance needed underneath, for cable & plug : 39mm minus the mounting surface thickness (i.e. if your roof is 2mm thick, you'll need a 37mm gap between the underside of the roof and your headlining if you want the dome mount to be hidden)

Metal-to-metal earth :

You will need to make a metal-to-metal earth contact between the prongs of the "three pronged washer" and the underside of your roof etc.

I've always found the easiest way to do this is with a flapwheel on a cordless drill - this way you can quickly get a good shiny metal area where the prongs will touch.

When you tighten the nut, the washer will be compressed, so the prongs will move outwards very slightly, so take this into account when deciding where to bare back to clean metal.

The actual contact area only needs to be a few square millimeters so you don't have to go too mad scraping paint away from a big area!

(Update Feb 2013 : We've noticed new stock of Sirio dome mounts now have a single big nut with serrations on one side, which takes the place of the 3 pronged washer and nut. At the time of writing, some mounts in stock have the new single nut, some have the old 3-piece arrangement. The principle for earthing the mount is the same - on the new nut, the serrated area is the bit where the metal-to-metal connection is made, so it's here that you'll need to remove any paint etc from the underside of the panel or whatever surface you are mounting the dome mount on. When all stocks have the new tightening method, we'll update this info.)



A "Standard" Dome 3/8" mount - this is the one you can choose in our packages and fits the majority of the aerials we sell



Here you can see where the paint on the underside of the roof has been scraped away to get a good metal-to-metal earth connection



This customer didn't want to go through the business of dropping his headlining to install a dome mount so he just cut a bit out!



This is a dome mount mounted on a bonnet - the sound deadening material under the bonnet has been cut away to allow the paint to be scraped away and the mount fitted in place



A quick way to get a metal-to-metal connection is to rotate the 3 pronged washer while applying pressure - the points will cut through the paint, although they will also move outwards slightly as they are compressed when tightened up so make sure they still touch bare metal!

IMPORTANT : On aluminium bodied vehicles (Land Rover Defenders & Series Land Rovers etc) the exposed metal will oxidise which over time will break down the earth connection you've just made.

There are two solutions to this which should be done immediately after you've installed the mount :

- 1/ Paint over the area where the mount and panel meet with a zinc based paint - "sealing" them together, and preventing oxygen from getting to the exposed metal. (Rust inhibiting paints like Red Lead and many primers are zinc based).
- 2/ Do the same basic thing as above (sealing the contact point against air) but use an aerosol [plastic seal spray](#) which is much easier, but might need recoating occasionally.

Installing without metal-to-metal connection :

If you cannot make a metal-to-metal connection at the mount - if you are fixing it to a non conductive surface like a fibreglass panel or even wood or plastic etc, you can run an earth wire from the dome mount to the nearest convenient earthing point.

The wire should be as short and thick as possible to get the best connection, and should be attached to the mount between the 3 pronged washer and the lock washer - a ring terminal is ideal for this.

This method of obtaining an earth connection will work ok, but you will get slightly less range than if you had made the earth connection at the actual mount because the further the aerial is away from it's earth, the higher the angle of radiation will be - so you'll be sending signal up at something like 45 degrees, instead of a much lower angle, along the ground.

If you're fixing the dome mount through a fibreglass or GRP panel, you may want to add a strengthening plate to prevent stress, flex and breakage to the panel. We sell an ideal solution to this with our [strengthening disc with earth strap](#) which provides both strengthening and an earthing wire.





Dome mount with an earthing wire fitted - ring terminal between the washers, with 8awg cable



Here's a dome mount (with part of a [quick release adaptor](#) fitted) fixed to a rear spoiler on a car - the spoiler isn't metal so an earth lead has been fitted to go to a suitable earthing point



Our [strengthening disc with earth strap](#) which provides both strengthening and an earthing wire



Our [strengthening disc with earth strap](#) which provides both strengthening and an earthing wire

Cable :

If used through a hole in the roof or wing, the cable is likely to be protected by being inside the vehicle, but if you're using it on a lamp bracket or welded-on tag on a rollcage or similar, remember to secure the cable with cable ties so that branches cannot catch on it, especially the "loop" under the mount where the plug connects - if possible, "close" this by taping in with gaffa tape or similar.

The cable connection itself has a spring loaded pin, which makes contact with the middle of the right angled plug, so you can usually get the cable leaving the mount in whatever direction you want.

Roof mounting :

If you don't have a roofrack which would disrupt the aerial and you don't mind drilling a hole in your roof, this is almost always the best way of mounting a CB aerial.

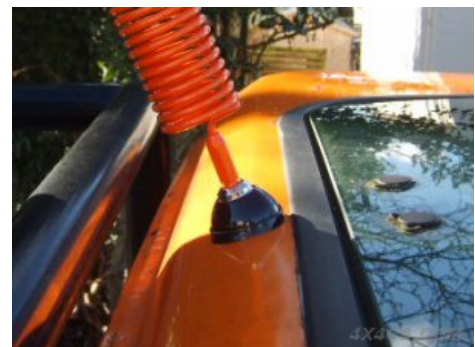
Once the dome mount has been installed & tightened, the hole you've drilled is watertight so you don't have to worry about water getting in.

If you can get the mount right in the middle of the roof you will get a completely even radiation pattern, i.e. the same amount of power will be transmitted in all directions.

If you have to mount the dome mount towards the back of the roof, slightly more power will be transmitted to the front of the vehicle, and vice versa, mount at the front of the roof = more power towards the back, although this will not be very noticeable in usage but it will make your signal slightly directional.



Dome mount through the roof - almost always the best way of mounting a CB aerial (if you don't mind drilling your roof)



The rubber bottom of the dome mount that touches the roof's top surface can accommodate a sloping roof and still make

Wing Mounting :

You can use the dome mount to mount your aerial on your front wing, although it might be necessary to use our [Angle Adaptor](#) to get the aerial standing upright.



Wing mounting, using our [Angle Adaptor](#) to get the aerial vertical



Here's a dome mount on the front wing of a Land Rover defender

Bonnet Mounting :

You can use a dome mount to fix the aerial to your bonnet. This is a good way of doing it on some Land Rovers and Range Rovers where the only bit of steel to get an earth on (without having to go through the procedure for protecting the earth connection of all panels as described above) is the bonnet. The bonnet is a large enough piece of metal to give a good ground plane.



Dome mount fitted to the bonnet of a Jeep



Another bonnet mounting

If you're going to mount a dome mount on your bonnet, make sure that you don't put it in a place where there will be excessive heat (i.e. right above the exhaust manifold etc) as exposure to serious heat will make the outer of the cable go brittle over time and may lead to water getting in and/or breakage.

Brackets and other things/places you can mount a dome mount on :

The dome mount can be used to fix an aerial to a huge number of places :



Dome mount fitted to the factory fitted aerial bracket on an ARB bullbar



Dome mount fitted to a homemade bracket that the customer had welded to his rollcage



Dome mount fitted to one of those "up and over" wheelcarrier mounts that some chap makes up and sells on Ebay



Dome mount on a homemade bracket that the customer fixed to his spare wheel carrier



A great idea - a customers homemade bracket for fixing an aerial to the front of his Nissan Terrano



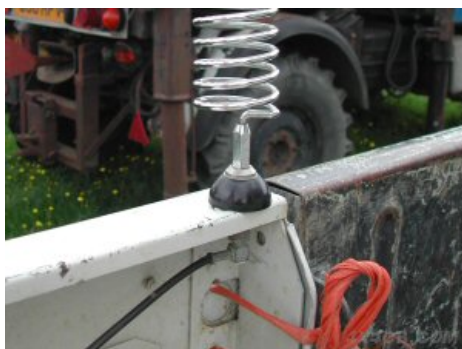
Here's how the Terrano bracket fixes... easily adaptable for other vehicles



Here's a dome mount fitted to a jerry can holder



Here a farmer customer made a long bracket to bring the mount up to a suitable height



Here the dome mount has been fixed to the top of the tub on a pickup



A customer-made bracket fixed to another pickup

Steel Weld-on bracket for dome mounts :

We have commissioned a [weld-on bracket](#) for our dome mounts that can be fitted to any 2 inch diameter tube - rollcage, bullbar etc. We are the sole stockist of this unique product!



*Our weld-on bracket for dome mounts,
made of steel*



*Our weld-on bracket for dome mounts,
made of steel*

The Dome RM - a solution for mounting on non-horizontal surfaces :

Some of the photos above show the normal Dome 3/8" with an angle adaptor to get the aerial standing vertical... another option to achieve this is to use the Dome RM (the RM stands for Rear Mount, see the photo below).

The Dome RM uses a wing nut and bolt to tighten the mount up at the desired angle, so could be more prone to theft although this could be glued with Loctite or similar or the wingnut replaced for a normal hex nut which would make it less easy for a thief or vandal to remove.



*Dome RM fitted to the rear of a Land
Rover Defender*



*Dome RM fitted to the rear of a Land
Rover Freelander*

Dome PL :

This is the dome mount for aerials like the [Sirio Hipower 3000](#) and [4000](#) which have a different bottom connection to most aerials. It's only the top thats different, the 3 pronged washer and cable connection is the same as the Dome 3/8" and Dome RM.



*Dome PL, with weather cap (which is
supplied with it) fitted*



Dome PL with the weather cap off

All in all, the dome mount is a neat solution that can be used on any horizontal surface - or with our angle adaptor, any angled surface too!

Product links:

- [Dome 3/8" mount with 5m cable](#)
- [Dome 3/8" mount without cable](#)
- [Dome RM mount without cable](#)
- [Dome PL mount without cable](#)
- [Weld-on bracket](#)
- [Dome mounts leads](#)

[4x4 CB Radio Package Deals](#) (all of which have the option of choosing the dome 3/8" for the aerial mount)

[More photos of the Dome mount](#)

You are here : [Installing CB Into 4x4's](#) / [Fitting the Aerial & Mount](#) / [Fitting a Dome Mount](#)

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