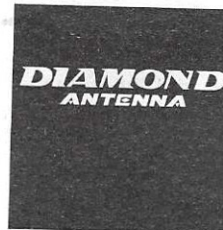


# 6m/2m/70cm Tri-Band High Performance Mobile Gain Whip Antenna for Amateur Radio Operation

Fold over whip element structure

**CR627B** (UHF connector)

**CR627NMOB** (NMO connector)



## Operation instructions

Be sure to read the instructions thoroughly before installing the antenna to operate properly. Keep the instructions at hand carefully for later use.

This antenna is manufactured to operate on amateur radio frequency bands. Do not transmit on the frequency band other than specified.

### Note:

To avoid inviting any accident, be sure to note the following precautions.

- 1) Bolts and screws on the antenna and antenna bracket are likely to be loosened by vibration during driving. Be sure to see if they are well fastened, before operation, and refasten them if needed.
- 2) The antenna is likely to be broken if strong impact is applied to the antenna during driving and broken antenna is extremely dangerous. Be sure to drive with care to avoid hitting the antenna to any obstacles such as branches.
- 3) The antenna may be broken by exposing it to constant strong vibration such as those can be seen on diesel engine vehicles. It is highly recommended to install the antenna as far away as possible from the source of vibration.
- 4) Touching the antenna during transmitting may invite electrification. If it is necessary to transmit while parking the car, be sure to see if there are any people near the antenna or anyone approaching the antenna.
- 5) Do not drive the car with the antenna folded, since it may invite serious accident.
- 6) Install the antenna within total width and length of the car and the place where is not easily reachable.
- 7) Be sure to see if the antenna is working properly before operation. Out of tune antenna may invite malfunction to your radio equipment.
- 8) If thunder lightning comes close to you, do not touch the antenna or coaxial cable, otherwise you may be electrified by the lightning.
- 9) Be sure to wire coaxial cable to the place where is not interfere your driving.
- 10) Do not install the antenna or antenna bracket, or wire coaxial cable very close to other electric circuit wiring or switch box. Contacting those with electric circuit may cause to make fire or electrification.



**Stop transmitting promptly if there seems to be something wrong with the antenna.**

Keep on transmitting with extraordinary high VSWR may cause to brake your radio equipment. Stop transmitting promptly and ask your dealer or DIAMOND antenna for assistance.

## Description

- 1) Three bands are covered with 1.51m(59.4") total length.
- 2) Fold over whip element structure eliminates troublesome antenna detachment when the car is parked in your garage. Whip element section of the antenna can be tilted for desired direction by pull the element up and incline for any direction.(Fold over whip structure.)

## For installation

To achieve best performance of the antenna, be sure to take the following things into account.

Note.

- 1) The CR627B/CR627NMOB require car body as their ground. It is necessary to install an antenna bracket perfectly grounded to car body, since improper grounding of the bracket might invite higher or unstable vswr.
- 2) If the antenna bracket is located at remote location from the car body such as on rooftop railing, rooftop cargo carrier or side view mirror stay, VSWR of the antenna may not be lowered.
- 3) If the antenna is located too close to car body, rooftop cargo carrier or other antenna, VSWR of the antenna may not be lowered.
- 4) Rooftop magnet bracket can not be used with this antenna.

## For adjustment

The CR627B/CR627NMOB are completely adjustment free mobile whip antenna. The antenna are adjusted to use on each band coverage in all practical purpose. If it is necessary to alter band coverage of a particular frequency band for special purpose, loosen set screws on fold over whip structure section and put whip element in and out to adjust on desired frequency.

In this case, swr meter for corresponding frequency band is required. And be sure to refasten the set screws thoroughly after the adjustment.

\*Since the antenna is multi band structure, adjustment in one band can be effected to another bands to move their center frequencies.

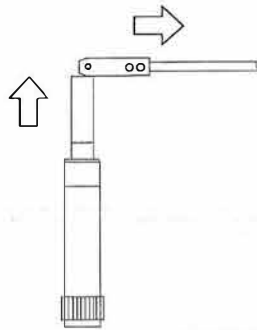


**Note;**

- 1) Do not touch the antenna while transmitting to avoid electrification.
- 2) Adjustment has to be practice at the place where has no obstacle or power line nearby and where has no pedestrians or cars around it.
- 3) If adjustment is performed on a bridge or on elevated parking lot, the antenna may not be adjusted properly due to insufficient ground capacitance.
- 4) To avoid interfering other radio station, it is recommended use least RF power as possible and transmit shortest time as possible.

**Fold over whip element structure**

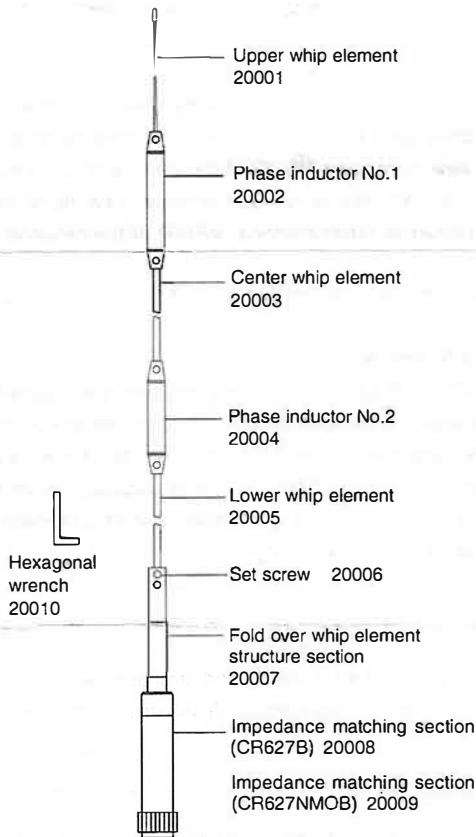
To fold the antenna, pull whip element and incline for desired direction.



**! Note;**

- 1) Since folded antenna moves around freely, do not drive with the antenna folded.
- 2) If top end of the antenna reaches out of car body when it is folded, do not leave the antenna folded and remove it from the bracket, since leaving a part of the antenna out of the body may invite human accident.

**Schematic diagram**

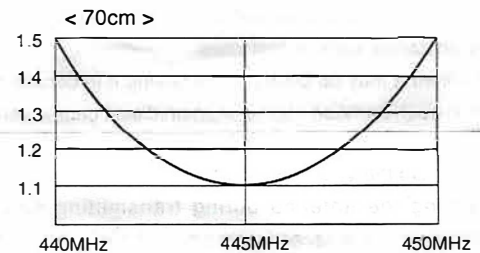
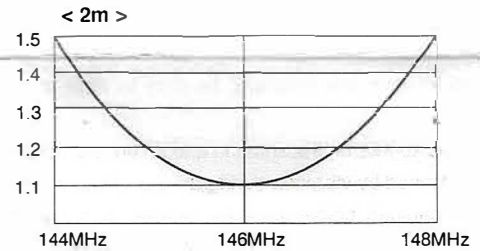
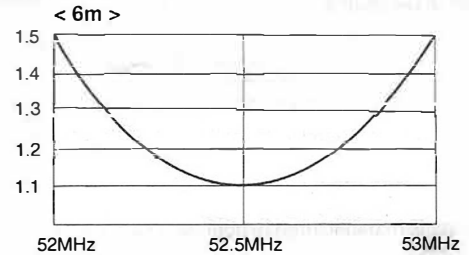


**Notice**

- 1) The CR627B/CR627NMOB are grounded type antenna that designs to use car body as a ground. Therefore, the antenna can not be used on other location, since ground structure is different.
- 2) Installation place of the bracket may begin to corrode. It is recommended to paint rust protection paint to the place where body paint is removed by grounding.
- 3) Be sure to watch out for coaxial cable wiring, since outside water is most likely to enter through the wiring.

- 4) Avoid keeping contaminated the fold over whip structure section and plastic section with bulk of salty material such as defroster, since it may reduce antenna performance and ultimately result in malfunction of an radio equipment.
- 5) It is recommended to clean the antenna periodically. Do not use benzine or thinner to clean the antenna. Use water thinned neutral detergent to clean it if it is too dirty.

**VSWR chart**



**Specifications**

Frequency : 6m(52-53MHz), 2m(144.5-148MHz), 70cm(440-450MHz)  
 Gain : 2.15dBi(6m), 4.5dB(2m), 7.2dB(70cm)  
 Max. power rating : 120W(Sum of all bands)  
 Impedance : 50ohms  
 VSWR : Less than 1.5:1  
 Length : 1.51m(59.4")  
 Weight : 510g/1.12lbs.(CR627B), 470g/1.03lbs.(CR627NMOB)  
 Connector : UHF(CR627B), NMO(CR627NMOB)  
 Type : 1/4-wavelength(6m), 6/8-wavelength C-Load(2m), three-5/8 wavelength C-Load(70cm)

■ Though the product being purchased is manufactured under strict quality control, if there are any defect caused by transporting the products, ask for your dealer promptly.

■ Design and specification of the antenna can be changed for further improvement without prior notice.