



Model

# CT1800

Low Profile, Rugged  
and Covert UHF Mobile  
Antenna

## 1700-1900 MHZ 2.1 dBi

- Bulkhead SMA female connector protrudes from base of antenna.
- 5 Watts maximum input power

## INSTALLATION GUIDE

[www.zcg.com.au](http://www.zcg.com.au)

### ANTENNA DESCRIPTION

The rugged and covert CT1800 UHF low profile, ground dependent antenna is an ideal choice in situations where a traditional whip would be vulnerable to damage or vandalism.

Constructed from aluminium, nylon and a gold plated bulkhead SMA female connector, the CT1800 measures just 92mm long, 32mm wide and 14mm high.

Typical applications suited for this low profile antenna include :

- |                     |                     |
|---------------------|---------------------|
| ✓ Trains/Trams      | ✓ Police            |
| ✓ Buses             | ✓ Ambulance         |
| ✓ Forklifts         | ✓ Fire Brigade      |
| ✓ Tractors          | ✓ Military vehicles |
| ✓ Forestry Vehicles | ✓ Security vehicles |
| ✓ Logging Trucks    | ✓ Mining hardware   |

A detailed specification sheet is available to download from [www.zcg.com.au](http://www.zcg.com.au)

### TUNING

The antenna has been manufactured in the factory for the 1700-1900 MHz UHF frequency range :

VSWR has been optimised to better than 2:1. This tuning cannot be altered.

### SELECTING THE MOUNTING POSITION

The typical mounting position for the antenna is to the flat metal roof of a vehicle.

The metal mounting surface must be **at least 270mm** to act as an effective ground plane. The antenna will then propagate in a near omnidirectional radiation pattern with 2.1 dBi gain, the same as a 1/4 wave whip.

To achieve best performance from your antenna, these are the important principles you should consider when selecting the mounting point :

- 1. Mount the antenna in as high a place as possible.**
- 2. Mount the antenna as far away from other antennas and metallic objects as possible to avoid interference and distortion of the omnidirectional pattern. At least 350mm side clearance is desirable, preferably more.**

### INSTALLATION GUIDE

Drill 2 x 5mm holes (mount holes) and 1 x 6mm hole (connector hole) in the metal ground plane surface.

Apply a silicone bead around base of connector and edge of CT1800 low profile antenna to reduce water ingress under your antenna and into your structure/vehicle.

Utilise 2 x M5 stainless steel x required length set screws, adequate enough to allow security through the antenna and through your mounting surface to secure the antenna firmly.

**PLEASE NOTE: No fixings are supplied due to variances in mounting surface thickness.**

The bulkhead SMA female connector protrudes through the metal ground plane surface to allow your feeder cable connected from underneath to be concealed and protected from damage/unwanted access.

RG58 low loss (SKU: 7839-100) or RG316 miniature (SKU: 7853-100) cables are recommended for use as a feeder cable. To reduce signal loss, the cable should be kept to the shortest length necessary.

Use proper tools and strip dimensions to fit your SMA male and to-equipment terminations. ZCG can also supply a pre-terminated coaxial cable for a plug-and-play installation.

Route the cable carefully to your device. We recommend securing your cable using cable ties, do not pull them so tight as to crush the cable. A damaged feeder cable is a cause of high VSWR and reduced performance. We recommend uPVC for internal mounting and 316 stainless steel for external securing.

Connect the feeder cable to your device.

**Installation is now complete.**

### MAINTENANCE

The CT1800 is designed and manufactured to be as robust as possible, requiring next to zero maintenance during its service life.

We recommend a yearly visual inspection of your antenna for damage, termination security to ensure connectivity and visual inspection of your cable route, to ensure no kinks or damage has occurred and system performance levels.

*If there is a build up of surface material such as iron powder from overhead public transport power lines (trains and trams), we recommend removal of the residue as soon as possible, as the residue will greatly reduce functionality of your antenna and system.*