

## 3.5-30MHz Screwdriver Antenna for Amateur Radio

# SD330

**DIAMOND**  
ANTENNA

### Operation Instructions

To use this antenna properly, read this instruction thoroughly before using it. Keep this manual carefully at hand for later use.

This antenna is for amateur radio. Don't transmit except for the specified frequencies.

#### <<Note>>

Please follow the below notices to avoid inviting accidents.

- ① Nuts and screws can be loosened by vibration during driving. Be sure to check those fastening devices from time to time and refasten if necessary.
- ② Strong impact can cause to break the antenna and may invite accidents by falling the element. It is recommended to drive away from those obstacles such as branches.
- ③ Strong vibrations caused by diesel engines may damage the antenna. It is recommended to install the antenna at the location where has least vibrations as possible.
- ④ Touching the antenna during transmission may cause to electrify. Be sure to confirm to see if there is no one around the antenna if transmission is taking place while the car is parked.
- ⑤ Use the large and strong antenna bracket and fit the bracket on the stable place vertically.
- ⑥ Install the antenna within total width and length of the car and the place where is not easy reachable.
- ⑦ Confirm if the performance of the antenna is fine before operation. If not, the transceiver may be damaged.
- ⑧ If thunder seems to rumble in the vicinity, don't touch the antenna and coaxial cable to avoid electrocuting by 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.
- ⑪ When driving, adjusting the frequency is dangerous. Do not adjust during driving.

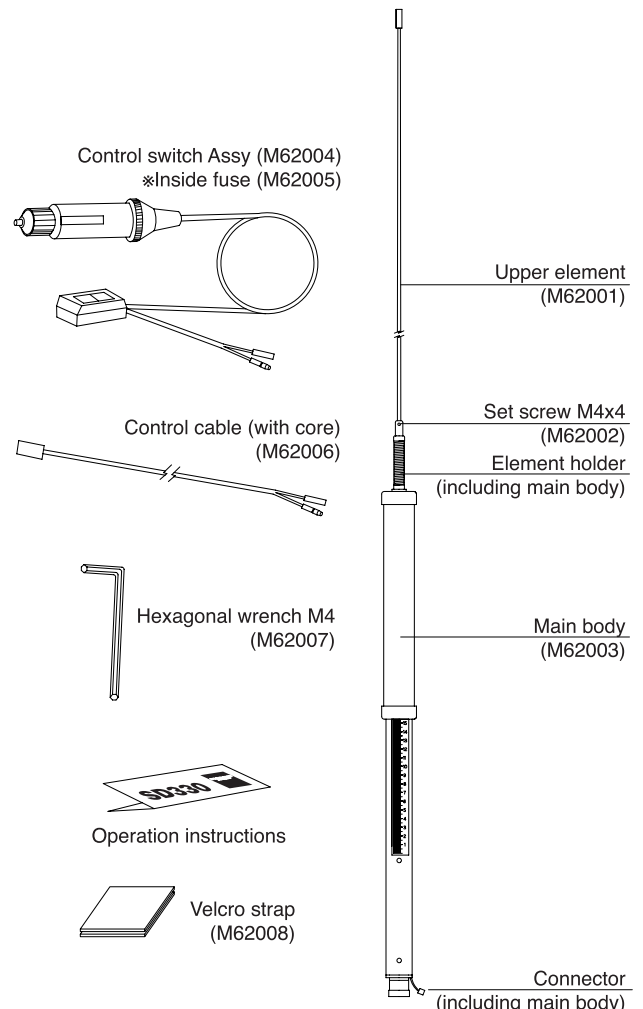
**<<Stop transmitting promptly if there seems to be something wrong with the antenna.>>**

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

#### • Description

- ① The SD330 is a mobile antenna that can be operated on wide bands adjusting the coil section by the remote controller in the car.
- ② It takes approx. 50 seconds to move the coil section from 3.5 to 30MHz. It takes approx. 20 seconds only from 7 to 30MHz.
- ③ The SD330 can be operated with the HF transceivers that max. power rating is 200W (SSB).
- ④ It is easy to have power supply from the cigar plug.
- ⑤ It can be operated on wide bands using with the built-in antenna tuner of the transceiver.

#### • Schematic diagram (part numbers)



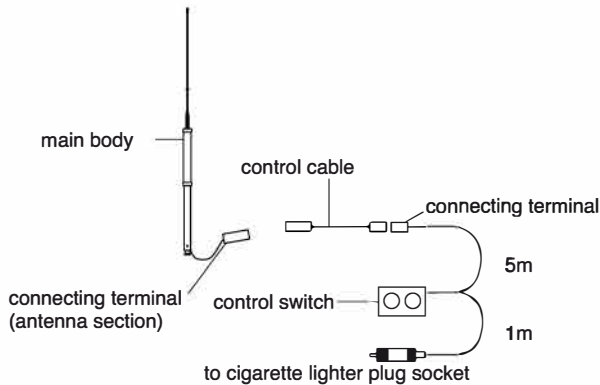
## •How to install

The SD330 activates under the car body as an earth-ground. The antenna base and car body must be completely in conduction to have the lower VSWR. If the antenna is installed close to other antennas or car bumper, VSWR may not be dropped. The SD330 is a heavy and long antenna. Select the strong enough place to install the antenna.

If it is difficult to have an earth-ground, please use MAT50 (not included). It is helpful to have an earth-ground.

## •How to wire the code

- ①After installing the antenna, connect the antenna connector with control cable. Wire the control cable in the car and connect it with connecting terminal of the control switch assy.
- ②Put the cigar plug into cigarette lighter plug socket. Fix the control switch with Velcro strap at the place where is not interfere your driving.



### <<Warning>>

A plus voltage is applied on both power cords. If power cords are forced unreasonably or pinched, a fuse may be blown or shorting may occur.

**In case of power supply except for the cigar plug, please connect the polarity of power code correctly. Connecting the polarity contrary makes operation defect.**

## •How to adjust

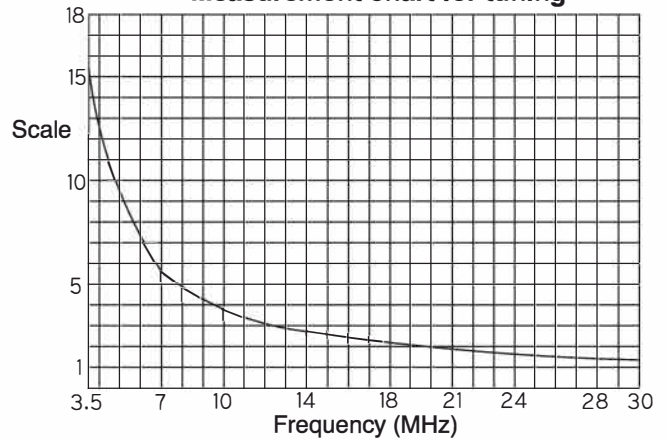
- 1,Set the SWR power meter (for HF bands) between the transceiver and the antenna.
- 2,Bring a car to a stop in the safe place where is no obstacle.

### <<Note>>

When driving, adjusting the frequency is dangerous. Do not adjust during driving.

- 3,Adjust the transceiver to the operated frequency and set CW or FM mode (power: less than 10W).
- 4,Please refer to the upper right chart and adjust the coil location beforehand to tune the frequency.

Measurement chart for tuning



※This is rough scale.

It will be changed depending on the installing location. It is necessary to fine-tune.

- 5,Have the transceiver transmission mode and make the lowest VSWR by UP and DOWN buttons of the control switch.

[UP]-tune down frequency

[DOWN]-tune up frequency

※The coil locations of the antenna are lowest [1] and highest [18]. When the coil is at lowest or highest location, the coil won't move due to a limit switch contained. Do not keep pushing UP and DOWN buttons when the coil is at lowest or highest location.

- 6,It is possible to operate after tuning. We recommend using the built-in antenna tuner of the transceiver to have lower VSWR.

## •Specifications

Frequency: 3.5~30MHz

Impedance: 50Ω

VSWR: Less than 2.0 (at resonated frequency)

Max. power rating: 200W SSB

Length: Approx. 1.85m max (at 3.5MHz)

Weight: Approx. 1.1kg

Connector: MP

Type: 1/4λ center loading

Power supply voltage & current: DC12V 100mA

Up-down time: Approx. 50 seconds (3.5→30MHz),

Approx. 20 seconds (7→30MHz)

■Though these products purchased are manufactured under strict quality control, if damage is caused by transporting, ask your dealer promptly.

■Design and specifications of these products will be changed for future improvement without advance notice.