



TV AM/FM DOME

Land Mobile/Shipboard Non-directional TV and FM Radio Reception Antenna System

The Moonraker TV/FM Antenna is a compact active antenna system, designed to provide improved reception of TV and FM signals in both the VHF and UHF bands for both analogue and digital transmissions.



The system is truly omnidirectional and features separate VHF and multiple UHF arrays. These two arrays are suitably coupled via a built-in diplexer. Reception at UHF frequencies is also optimised through the ability to receive both horizontally and vertically polarised signals.

Completely sealed within a low profile ABS plastic radome, foam filled for complete protection from vibration and the marine environment, the antenna exhibits minimum pickup from other shipboard communications equipment and is protected from lightning static discharge. It may be roof mounted on buses, camper vans, and the like, providing a low profile, streamlined and rugged installation. It is supplied with 6 metres of low loss co-axial cable for connection to a remote control unit. There are two types of control unit available.

The AM/FM Antenna system has TV and AM/FM receiver outlets and input for a separate AM/BC receiving antenna for installations where a combined AM/FM receiver is used. The AM/BC signal is combined with the dome's FM signal and connected to the AM/FM receiver outlet via the control unit. A suitable AM antenna is the Moonraker type 15BC/Marine with matching transformer or the standard AM antenna on vehicles.

The TV/S Antenna is designed for installations where only a TV receiver outlet is required.

Specifications

Frequency Range	TV Bands: VHF 40-230 MHz; UHF 400-850 MHz; FM Band:76-108 MHz
VHF Marine Band	Integral band stop filter reduces VHF marine transmitter interference
Polarisation	Horizontal at VHF; horizontal and vertical at UHF frequencies
Pickup Pattern	Omnidirectional
Amplifier	Gain: VHF 26dB UHF 34dB (replaceable unit)
Impedance	75Ω
Supply Voltage	TV AM/FM: 12 or 24v; TV/S: 12v only. Reverse polarity protected. Negative earth
Current Drain	60 milliamps (approx)
Cable Connections	75Ω co-axial via F type connector on antenna
Connecting Cable	6 metres x 6.5mm OD 75Ω high quality co-axial cable and F type connector (F type connection to dome)
Radome	White ABS plastic 380mm (diameter) x 185mm (height) (15 x 7.1 in)
Mountings	Supplied with threaded stainless steel mounting tube 25.4mm x 300mm (length) and flange base mount
Wind Loading	4.3 kg at 100 km/h (9.5 lbs at 60 mph) 6.8 kg at 130 km/h (15 lbs at 81.25 mph)
Control Unit	TV AM/FM: 110x60x30mm (4.3 x 2.4 x 1.2 in);
Size	TV/S: 54x33x22mm (2.1x1.3x0.9 in)
Protection	Reverse polarity protection with 3AG 250 mA fuse
Packed Weight	3.25kg ((7.2 lbs); cubic weight: 6.2kg (13.6 lbs)

Specifications subject to change – Issued 07/13



Moonraker Australia Pty. Ltd. ABN 70 162 868 475
Tasmanian Technopark, Dowsing Point, Tasmania, Australia 7010

Website: www.moonraker.com.au Tel: 61 (0)3 6273 1533 Fax: 61 (0)3 6273 1749 Email: radiocom@moonraker.com.au





TV DOME INSTALLATION INSTRUCTIONS

1. Cut jacket through to the braid 12mm and remove outer PVC



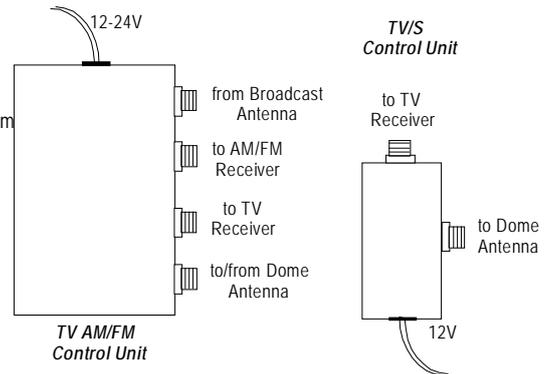
2. Fold back the braid over the outer. Cut through the dielectric and foil 6mm from end. Remove the dielectric and foil and expose 6mm of the centre conductor.



3. Slide on the connector, leaving 1.5 to 3mm of the centre conductor protruding. The dielectric should also be flush with the bottom of the nut. Then crimp the connector.



F Type Connector Assembly



For best reception the Dome antenna should be installed as high as possible clear of metal objects such as masts, stays or antennas, etc., which may distort the omnidirectional pickup pattern. It should not be in the line of fire of radars.

On vehicles, the dome should be mounted as high as possible above the roof. 100mm (4 in) should be used as a minimum guide. Flush mounting is acceptable on a fibreglass roof. On ships using high power transmitting equipment the Dome should be mounted as far as possible from transmitting antennas. Mounting may be by U bolts or hose clips clamped to a stub mast or other structure or via the threaded flange mount provided.

The cable must be securely supported so that the cable weight does not hang on the dome connector. The cable may be shortened or lengthened as required. To avoid ghosting, extension of the cable should be made by using an "in line" good quality 75Ω cable connector and 75Ω cable, preferably the same type as supplied with the antenna. All connections must be sealed to prevent moisture ingress, particularly the coaxial connection in the base of the antenna. Use sealing tape provided.

The dome mounted amplifier is accessible by removing the 6 screws securing the cover plate on the base of the dome. The amplifier connections and cover plate are sealed with a neoprene gasket and must be removed carefully. Do not open it unless there is a problem. Service of the amplifier/control unit should only be carried out by a qualified technician. Replacement amplifier units are available from Moonraker. When replacing the amplifier it must be resealed again, using grease such as petroleum jelly on both side contact edges of the gasket. If using silicone, it is most important that only neutral cure silicone sealants are used as other types corrode metals.

The control unit may be mounted in any convenient position located inside the vessel. For the AM/FM unit, mounting holes are accessible by removing the unit lid. Connect the control unit battery cable to a suitable DC system. Wire with tracer is positive. The unit will not work if polarity is reversed. If 110 or 240 volt AC operation is required use a 12 volt DC plug pack with a

current rating of at least 100 milliamps.

Power for the Dome amplifier is fed via the coaxial connecting cable. In the TV AM/FM control unit short term protection against cable short circuit is provided by a fuse in the control unit, but long term short circuit may cause control unit overheating. The TV/S unit's fuse is external in line. Cables from control unit to receivers should be 75Ω and as short as possible.

If a dual AM/FM vehicle type receiver is fitted, special low capacity cables should be used for connection to the AM antenna. This does not apply if the Moonraker 15BC receiving antenna is used. Both control units are reverse polarity protected. Coaxial cable connection details are shown above.

In the event of the system not functioning:

1. Check that 12v or 24v is present at the input to the control unit; 12 volts *only* TV/S. Ensure that the polarity is correct (tracer is positive)
2. Check fuse in TV AM/FM control unit (In-line fuse TV/S)
3. Check for short circuit between braid and inner conductor of dome antenna cable; also check cables to TV receiver

The Moonraker TV Dome is a true omnidirectional antenna system and as such will receive signals from all azimuth directions. This obviates the necessity to redirect the antenna as boat or vehicle heading changes. In some locations signals reflected from cliffs, hills or nearby objects may be of similar strength to the direct signal. Since omnidirectional antennas will not discriminate between direct and reflected signals, some picture deterioration, especially on the higher channels may occur in such locations.

Digital TV Reception

It is possible for some receivers to indicate there is *no signal* where an incoming digital signal is very strong. This can be easily overcome by placing a variable or switchable attenuator (20dB) in the coaxial line between the control unit and TV receiver. Analogue signals rarely suffer from this problem. A suitable attenuator is available from Moonraker.

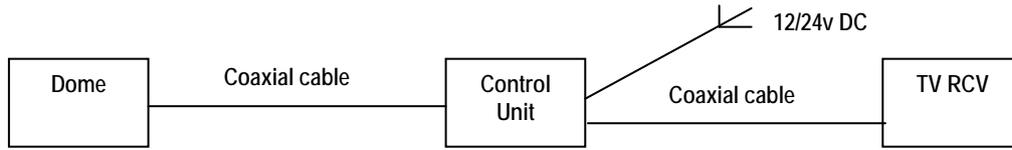
Specifications subject to change – Issued 07/13



Moonraker Australia Pty. Ltd. ABN 70 162 868 475
Tasmanian Technopark, Dowsing Point, Tasmania, Australia 7010

Website: www.moonraker.com.au Tel: 61 (0)3 6273 1533 Fax: 61 (0)3 6273 1749 Email: radiocom@moonraker.com.au





Specifications subject to change – Issued 07/13

Moonraker Australia Pty. Ltd. ABN 70 162 868 475
Tasmanian Technopark, Dowsing Point, Tasmania, Australia 7010

Website: www.moonraker.com.au Tel: 61 (0)3 6273 1533 Fax: 61 (0)3 6273 1749 Email: radiocom@moonraker.com.au

