

# PR-414 Marine AM-SW-FM-TV Antenna



## For Color TV-AM-SW-FM Stereo Reception at Sea

The PR414 is an omnidirectional, active, wideband terrestrial AM-SW-FM-TV receiving antenna (0.1-890 MHz) for marine use, specially designed for commercial craft equipped with one or two Radio and TV sets as on Coasters in limited international trade, Fishing Boats, Tugs, Pilot Service Craft and Rescue Cruisers, where extra performance in a robust package is appreciated.

PR414 is a low profile product, based on 3 independent low noise amplifiers integrated directly to the omnidirectional multi-element antenna. The antenna's exterior is made of UV protected thick ABS plastic, which requires no maintenance. All inner parts are embedded in solid polyurethane foam for protection from heavy vibration, moisture and sub zero temperatures. Mounting hardware is made of Marine Grade Almag Aluminum alloy. The integral low noise 3 band 6 transistor amplifier increases the sensitivity of the system as well as compensating for cable losses in the antenna downlead. Separating the amplifiers benefits intermod rejection and allows for more gain with less noise. The PR414 features high performance 5 GHz bipolar microwave transistors, which are protected against static charge.

The PR414 utilizes a "3 offset broadband dipole element configuration" with each element covering a 120 degree view of the surroundings and a much improved omnidirectional antenna pattern when compared with other antennas.

The PR414 antenna is delivered with 4ft (around 1.2 meters) or 16 meters (50 ft) of 75 Ohm RG6U low loss coaxial cable and custom lengths can be arranged. The antenna includes a coax seal F connector splice kit and PR-11 power box with two outputs for 12 or 24 VDC operation. Our special taps and splitters are needed for AM and SW operation and reverse path is not available in this case.

### Specifications:

- Frequency range: 0.1-860 MHz
- Average MF-HF gain: 10dB (Ka=0.12)
- Average VHF gain: 25 dB
- Average UHF gain: tilt 16-20 dB
- VHF Noise figure: 3.0 dB
- UHF Noise figure: 2.5 dB
- Max output level: 106 dBuV min (2 signals 60 dBIM)
- Third order intermod: >20 dB IP3
- Filters: Band pass 100 kHz-30 MHz., 47-108 MHz., 174-230 MHz., 470-860 MHz.
- Broadband rejection filter: 140-165 MHz.
- Polarization: horizontal
- Antenna pattern: omnidirectional
- Element material: copper foil
- Element type: Three 120 degree offset broadband dipoles
- Supply voltage to antenna: 15VDC nominal
- Current consumption: approx, 120 mA (with LED)
- Operating temperature: - 40 to +55 C.

## Naval Electronics, Inc.

7028 West Waters Ave, suite#393, Tampa, FL 33634-2292, Ph:(813)885-6091, Fax:(813)885-3601,  
email: sales@naval.com, website: www.naval.com