

# ANC-4

# TIMEWAVE

## Antenna Noise Canceller & Diversity Combiner

The Perfect Complement to  
Timewave's DSP-599zx!



The ANC-4 is an rf device that eliminates or reduces power line noise, computer noise, TV-generated interference, and other types of electrical noise. The ANC-4 unit connects right to the antenna connector of the receiver or transceiver to cancel locally generated noise before it gets into the receiver and affects the receiver AGC circuits. Reception of signals well below the noise level of the local interference is possible.

To cancel locally generated interference, the ANC-4 detects the interfering signal and adjusts its phase and magnitude so that it matches the offending interference at the receiver input, but is 180 degrees out of phase, effectively cancelling the interference. This scheme is particularly effective at reducing local power line noise or other locally generated noise types.

Front panel controls allow adjustment of both the phase and magnitude of the local interference, providing extremely deep cancellation of the offending interference.

The ANC-4 connects between the main station antenna and the receiver antenna connector. A second antenna connects to the ANC-4 to act as a noise pickup antenna. A short wire antenna or a short collapsible whip is generally satisfactory for eliminating noises generated around the operating position or in the house, but an external antenna usually works better to eliminate noises generated outside the home. Any noise antenna that works, including combinations of horizontal and vertically polarized antennas, is satisfactory.

The ANC-4 operates as an active antenna by using the noise antenna and the NOISE GAIN control to amplify the antenna output. The unit can also be used as a diversity combiner to peak weak signals or null interfering signals.

### Features

- *Cancels S-9 line noise*
- *Nulls strong interfering signals*
- *Works with any transceiver/receiver*
- *Makes 2 antennas into phased array*
- *Wipes out noise before it hits your receiver*
- *Reduces interference generated by powerlines, electric motors, TVs and home electronics up to 40 dB*
- *Works for voice, data & CW*
- *250 Watt rating*

### Specifications for the ANC-4

Operating Frequency Range	500 kHz to 80 MHz (usable down to 100 kHz)
Signal Loss, Main Ant. to Radio	6 dB
RF Input Level, Main Antenna	3 Vrms maximum
Maximum Transmit RF Power Through Unit	250 W PEP or Average
Time to Switch to Bypass When Transmit RF is Detected	7 msec, typical
Time to Return to Receive Mode When RF is Not Present	Approx. 500 msec or 7 msec, typically internally selectable, (hang time)
Typical Local Noise Types	Power Line Noise, Computer Noise, TV Noise, etc.
Noise Cancellation	Typically 40 dB or greater
Front Panel	POWER switch, POWER LED, PHASE RANGE switch, NOISE PHASE control, FREQ RANGE switch, NOISE GAIN Control.
Rear Panel	Power Input, Noise Antenna Input, Main Antenna Input, Radio Output
Input Power	+11 VDC to +16 VDC @ 150 mA, reverse polarity protected
Size	1.7"H x 6"W x 4.3"D (4.3cm x 15.2cm x 10.9cm)
Weight	2 pounds (.91 kg)
Temperature Ranges	Operating: -20°C to +55°C Storage: -40°C to +85°C
Humidity	Up to 95% @ +55°C

