



LA350 - high performance active loop aerial

The LA350 is a compact active loop aerial specifically designed to provide good reception when away from the main monitoring location or when large external aerials are not practical. Compact, but achieving high performance, featuring an internal high-gain amplifier (13.5dB) and excellent overall strong signal handling (high IP³ +30dBm).

The LA350 comprises of a small control box with front panel power switch and LED. The top of the control box has a 6.3mm jack socket to accept any one of the four elements (two supplied as standard). The rear of the control box has a 1.3mm power socket (operation is from 12V DC, centre positive) and a BNC socket for connection to a receiver. The active low noise amplifier has a bandpass characteristic of 30kHz to 100MHz with a noise figure of approx 3.5dB. The LA350 is supplied with two elements (providing coverage from 3.0MHz to 30MHz), a BNC-BNC coax lead and AC power unit (* the power supply may not be provided in certain market areas):

- **350S** 30cm loop element: 3.0 - 9.0MHz (employing three turns in an aluminium loop)
- **350H** 30cm loop element: 9.0 - 30MHz (employing a single turn in an aluminium loop)

The elements are mounted on a jack plug which enables quick & easy swapping between elements and rotation to exploit the excellent directivity of the elements in peaking and nulling signals (ideal for minimising the effects of unwanted interfering local terrestrial signals and noise), of course the directional characteristics when listening to distant sky-wave signals will not be as pronounced as local ground-wave propagation. The elements feature a High-Q poly-variable capacitor so that each element may be 'tuned' to peak the wanted frequency while achieving maximum rejection of unwanted out of band signals - valuable additional selectivity for your receiver's front-end stages.

Optional bar elements are available for the MW and LF bands:

- **350L** bar element: 0.2 - 0.54MHz
- **350M** bar element: 0.54 - 1.6MHz

Using the LA350 active loop aerial

Connect the power supply to the rear panel DC input socket, the LA350 requires 12V DC at 150mA (requirement being 12 - 16V DC @ 150mA, actual measurement 120mA @ 12.5V, a 9V regulator is built-into the LA350 control unit). To minimise noise, keep the power supply as far away from the LA350 and receiver as practical. If using the optional 350L & 350M elements, you may wish to consider use of a low noise regulated power supply to reduce the effects of noise from diode rectifiers.

Connect the BNC-BNC coaxial lead (supplied) between the LA350 and your receiver's aerial input. If your receiver is fitted with a connector other than BNC, an appropriate adaptor must be used. Insert one receiving element into the top panel jack socket of the LA350 cabinet. Push the red front panel power switch, the green LED will illuminate to confirm that power is connected to the control unit.

Switch on the receiver and tune to the desired frequency (checking that you are using the appropriate aerial element). Rotate the tuning capacitor of the LA350 element (clockwise and anticlockwise) until the receiver's signal strength meter (S-meter) deflects to maximum and the incoming signal sounds clearest. If your receiver does not have an S-meter simply adjust for maximum received signal. Rotate the loop element until the signal is strongest and any interfering signal is nulled. It is advisable to locate the LA350 close to a window in order to achieve the best possible reception. The LA350 is NOT intended for transmit purposes.

Remember, in order to achieve good results, the LA350 (like all aerials) should ideally be located with a clear view in the direction you want to monitor (considering the great-circle map). If the LA350 is hemmed in, the preselection and directional properties may assist in dragging out signals from the noise, but will not be a substitute for a well sighted aerial. If possible, locate the LA350 near to a window, remember that you will need to rotate the element and preselect the tuning for best results (so don't remote site the LA350). To avoid the potential pick-up of noise from the receiver (particularly its display), it may be worth experimenting with the position of the LA350 with respect to the receiver (on top / along side / separated by a few metres etc), also where possible, experiment with the RF earth. E&OE © AOR LTD, 2001-2002.

Supplied:

LA350	Control unit
350S	30cm loop element: 3.0 - 9.0MHz
350H	30cm loop element: 9.0 - 30MHz
BNC-BNC	Coaxial patch lead
AC power supply *	

Options:

350L	Bar element: 0.2 - 0.54MHz
350M	Bar element: 0.54 - 1.6MHz

Reviewed by John Wilson in the UK Short Wave Magazine November 2002:

... My own view is that the LA350 is an impressive performer and will prove to be popular with enthusiasts who need a high performance antenna that will sit right on top of the receiver and still be as good or better than a traditional wire antenna strung down the garden - and of course the LA350 will reject local interference which would drown i.f. signals from the wire antenna...



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