



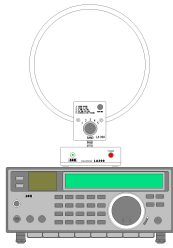
HI-Q active loop antenna

LA390

Instruction Manual

AOR,LTD.

Authority on Radio Communications



The **LA390** is a compact active (30.5cm diameter) loop antenna specifically designed to provide good reception when away from the main monitoring location or when large external antennas are not practical. Compact, but achieving high performance, featuring an internal high-gain amplifier.

LA390 vs. LA380

With similar performances, the LA390 offers in addition preselection for L.W and M.W bands, but not for the specific 40kHz and 60kHz time signals. Preselection sharpness has also been improved.

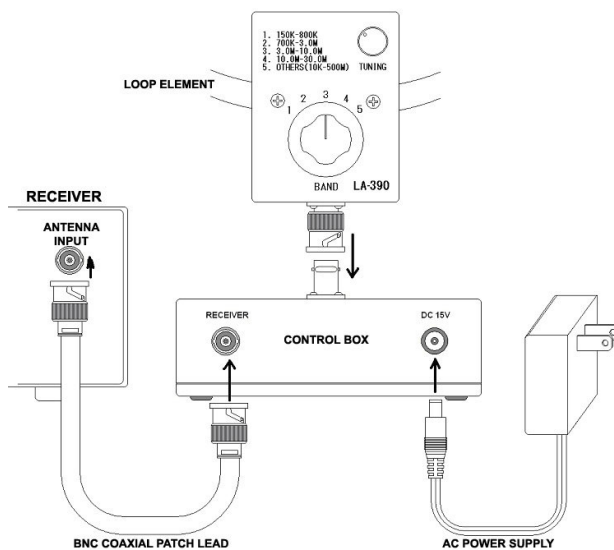
Directivity

A rotating loop antenna is very directional. Depending on the loop's orientation, you can peak an incoming signal depending on its direction, or decrease an interfering signal.

For example the nulling feature will allow you to remove a station on a frequency and pick up another (transmitting from a different direction) on the same frequency. Of course the directional characteristics when listening to distant sky-wave signals will not be as pronounced as local ground-wave propagation.

Thanks to its directivity, it is also ideal for minimizing the effects of unwanted interfering local terrestrial signals and noise.

The loop element features a 5 position band switch and a High-Q poly-variable capacitor (only active for switch positions 1 to 4) to tune and peak the wanted frequency, while achieving maximum rejection of unwanted out of band signals. This provides valuable additional selectivity for your receiver's front-end stages.



Using the LA390 active loop antenna

1) Connect the power supply to the rear panel DC input socket, the LA390 requires 12V DC at 80mA (9-15V DC). A 9V regulator is built into the LA390 control unit.

To minimize noise, keep the power supply as far away from the LA390 as practical. To minimize electrical interference from the power supply, for the reception of L.W and M.W bands, you may wish to consider use of a (non supplied) low noise regulated power supply.

- 2) Connect the supplied BNC-BNC coaxial lead between the LA390 and your receiver's antenna input. If your receiver is fitted with a connector other than BNC, an appropriate adaptor must be used.
- 3) Insert the receiving loop element into the top panel BNC socket of the LA390 cabinet.
- 4) Push the red front panel power switch, the green LED will illuminate to confirm that power is connected to the control unit.
- 5) Switch on the receiver and tune to the desired frequency. Select the correct frequency range with the band switch on the loop element. There are 5 positions to choose from:

| Switch position | Frequencies | Comments |
|-----------------|-------------|--|
| 1 | 150-800kHz | Longwave (148.5-283.5kHz) |
| 2 | 700kHz-3MHz | Mediumwave (520kHz-1710kHz) |
| 3 | 3-10MHz | Shortwave bands 100 to 30 Meters |
| 4 | 10-30MHz | Shortwave bands 30 to 7.5 Meters |
| 5 | Others | Between 10kHz and 500MHz, antenna acts as an amplified whip. |

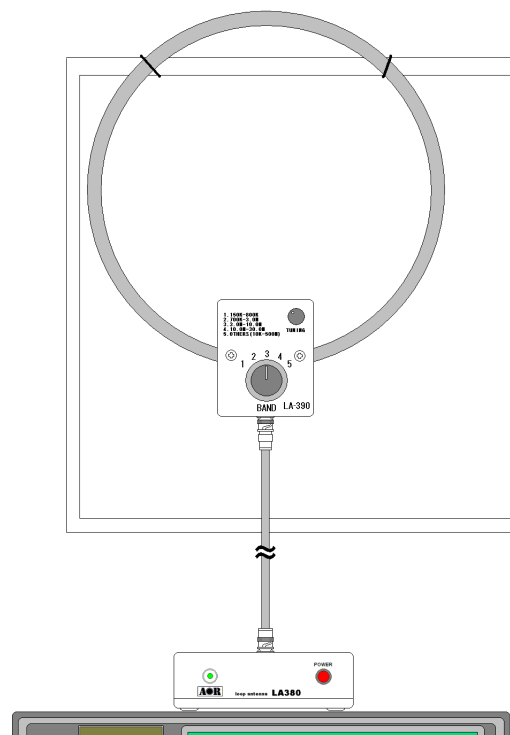
- 6) Rotate the tuning dial on the loop element (clockwise and anticlockwise) until the receiver signal strength meter (S-meter) deflects to maximum and the incoming signal sounds clearest. If your receiver does not have an S-meter, simply adjust for maximum received signal. Rotate the loop element until the signal is strongest and any interfering signal is nulled.

(Position 5 is non-tunable, as the loop is wired to act as an amplified whip)

It is advisable to locate the LA390 close to a window in order to achieve the best possible reception.

In case your listening station is too far way from a window, you have the possibility to use a (non-supplied) BNC-BNC coaxial patch lead between the control box and the loop. A gender change is required at one end of the cable, please use a BNC-BNC in-line socket.

The lead shouldn't be longer than 5m.



| LA390 Specifications: | |
|------------------------------|---|
| Frequency range | 10kHz-500MHz, 5 bands selectable |
| Impedance | 50 Ohm |
| Typical gain | 150kHz: 23dB 25MHz: 20dB 50MHz: 20dB 30MHz: 20dB 250MHz: 17dB 500MHz: 10dB |
| Connector | BNC |
| Loop element size | 305(W)x365(H)x60(D)mm |
| Control box size | 120(W)x55(H)x85(D)mm |
| Weight | Loop: 250g, control box: 230g |
| Cable | 1m RG58A/U (BNC plugs) |
| Power | External DC 12V (9-15V), approx. 80mA. DC connector 1.3mm centre positive |
| Supplied acc. | LA390 Control box with loop |
| | AC power supply |
| | BNC-BNC Coaxial patch lead (1m) |

Specifications subject to change without notice or obligation.

Precautions

The LA390 is NOT intended for transmit purposes.

Keep it away from excessive humidity and rain. LA390 is NOT waterproof.

We are not responsible for any damages to the antenna or your radio equipment due to improper use.

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