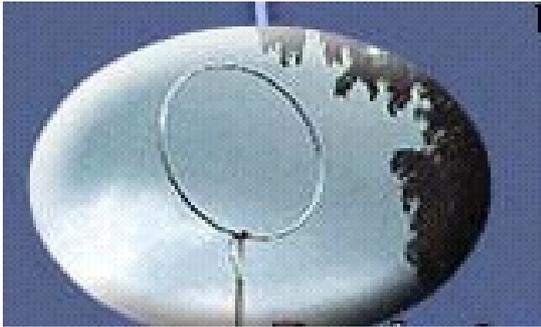


LA5030 INDOOR WIDEBAND/BROADBAND ACTIVE LOOP ANTENNA

50kHz to 30MHz



LOOP ANTENNA ADVANTAGE

The active antenna solves the problem of impedance matching to the feeder and yet the performance is comparable with larger antennas. However, most active antennas are the whip type and respond mainly to the electric-field. The Broadband Loop responds primarily to the magnetic-field, this ensures high rejection of nearby **electric-fields**. The intensity of the electric-field is usually higher than the magnetic-field when an antenna is close to interference sources such as TVs florescent lamps, mains wiring etc. Therefore, by rejecting the electric-field there will be a reduction in local interference compared to other types of active and passive antennas. Interference reduction is further enhanced by the deep nulls of the 'Figure-of-Eight' directivity pattern.

INTERMODULATION

Some active antennas generate intermodulation products which can appear as spurious signals interfering with reception. This interference or second order intermodulation is caused by non-linearity in the amplifier, producing signals which are the usually the sum and difference of strong Broadcast stations. The LA5030 Broadband Loop has been specifically designed to reduce intermodulation products to a minimum. The second order and the third order intercept points are typically **+70dBm** (IP2) and **+40dBm** (IP3) respectively. Thus the level of the intermodulation products are generally below the atmospheric and man made noise.

ANTENNA DESIGN

The Loop antenna consists of a semi-rigid plastic loop and a balanced gain optimised broadband amplifier using low noise RF power transistors. The amplifier is encapsulated in resin and housed in a uPVC box, this ensures reliable operation in all weather conditions. The antenna provides low noise performance, large signal handling ability. Rejection of mains borne noise is accomplished by using a balanced amplifier so that the feeder does form part of the antenna return path. The LA5030 is supplied Antenna Interface and a 12 volt regulated power supply. RG58C 50 ohm coaxial feeder cable is recommended for the antenna. The maximum feeder length is 100m. A 1m coax. lead connects the Antenna Interface to the receiver.

The LA5030 should be positioned away from noise sources; Computers etc.

TECHNICAL INFORMATION

Power consumption:	12 volts at 110mA
Intermodulation typically: With two signals of 30mV	2nd order -104dB 3rd order -134dB
Intercept point typically:	2nd order +70dBm 3rd order +40dBm
1dB compression point:	+25dBm
Output impedance:	50ohms, PL259

The LA5030 indoor Loop provides similar performance to the world renown ALA1530. The Loop is only 70cm in diameter and is semi-rigid to allow for installation through a small recess e.g. a loft hatch or on a window ledge.

This Active loop rejects locally radiated and mains borne noise and still provide similar sensitivity compared to larger antennas.

Additionally to the Loop can be used outdoors, even at ground level. The loop has a frequency range from **50kHz to 30MHz** and matches directly to the receiver. However, the use-able reception range is from 40kHz to over 40MHz. The LA5030 will also provide directional reception of the LW and MW bands.

The loop can be mounted remotely from the receiver away from local interference. Whereas, traditional antennas require a lot of space and can pick-up local noise.

Supplied complete with Antenna Interface and a power supply (UK, Europe and N. America) only.

WIDEBAND LOOP FEATURES

- **Very low intermodulation ensures good performance in a strong signal environment**
- **Up to 30dB rejection of locally radiated noise compared to active whip antenna**
- **Figure of eight directivity and deep nulls to further reduce interference.**
- **Ideal for directional LW/MW reception**
- **Rejects mains borne noise**
- **Semi-rigid construction, supplied with Interface and 12 volt PSU (UK, Ireland and North America only)**
- **No tuning necessary or matching unit**
- **No planning problems, works at ground level**

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Design/specification subject to change

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