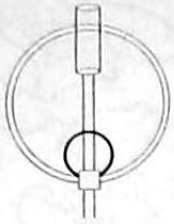
MagicLOOP™ restricted space antennas

ML 20-10: 13.9 - 30 MHz
31" loop 200 Watts **$399**



ML 40-15: ***6.9 - 24 MHz***
31" loop 150 Watts **$599**

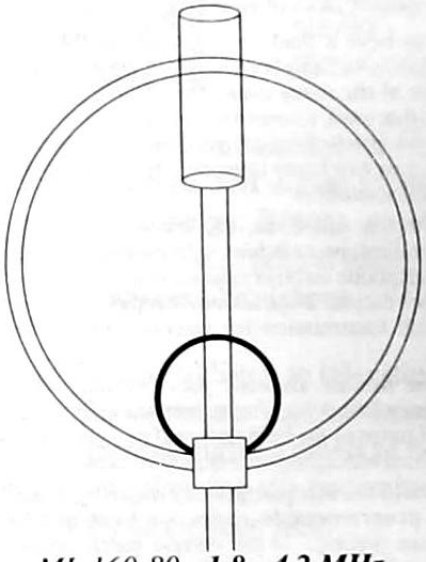
Now there's no excuse not to be active on 160 through 10 meters, no matter what size your back yard or apartment balcony. **j-Com MagicLoop** Magnetic Loop antennas have been engineered to exacting standards by GW4OGP to provide high performance in a restricted space. With four models to choose from, you can select the frequency coverage that's best for you.

Transmitting. Despite their small size, Magnetic Loop antennas are great performers, often outperforming dipoles and verticals in the same location. **The MagicLOOP works just as well only a few feet above the ground or mounted indoors** as it does in a higher location outdoors. A dipole would have to be mounted much higher to achieve the same low DX angle of radiation as a MagicLOOP just a few feet feet off the ground.

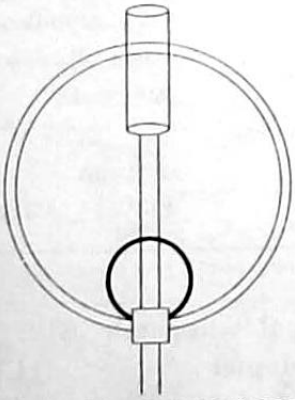
Receiving. Because magnetic loop antennas couple to the magnetic component of the electromagnetic field, **static interference from electrical storms, power lines and other local interference is substantially reduced**, producing a better signal to noise ratio than virtually any other antenna. This is particularly important on 160 and 80 meters or in noisy locations.

Reduced TVI. Magnetic Loop antennas are extremely high Q. Harmonic and sporadic emissions are sharply attenuated, making the MagicLOOP antenna the ideal choice in densely populated urban areas. On receive, the narrow effective bandwidth reduces desensitization caused by strong signals.

Remote tuning. The MagicLOOP is tuned to the exact operating frequency using a remote control box (included). The SWR can be adjusted to less than 1.5 to 1 over the entire operating range. No other antenna tuner is necessary, even for marine, commercial or MARS frequencies.



ML 160-80: ***1.8 - 4.2 MHz***
134 inch loop 100 Watts **$999**



ML 80-30: ***3.5-11.0 MHz***
67 inch loop 150 Watts **$699**

MagicLOOP Specifications

Impedance	50 ohms
VSWR	1.5:1 or less
Radiation Resistance	0.003 to 0.8 ohms
Material	HE30 Aluminum
ML 20-10	11 lb.
ML 40-15	15 lb.
ML 80-30	24 lb.
ML 160-80	35 lb.

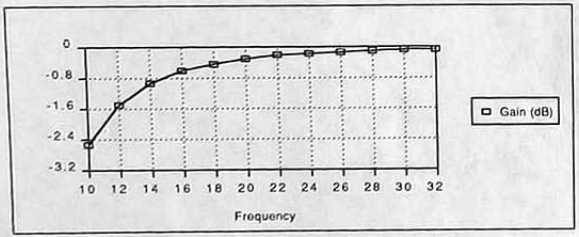
Prices subject to change without notice.
Shipping & Handling depends on your location.
30 day money back guarantee.

# of turns	1	2	3	5
Loop diameter (m)	1.2	1.2	1.2	1.2
Conductor Length (m)	3.8	7.5	11.3	18.8
(ft)	12.4	24.7	37.1	61.8
Conductor diameter (mm)	19.05	19.05	19.05	19.05
(in)	0.75	0.75	0.75	0.75
Frequency (MHz)	7	7	7	7
Power (W)	5	5	5	5
Area (sq ft)	12.2	12.2	12.2	12.2
Radiation Resistance	0.012	0.048	0.108	0.301
Conductor Loss	0.043	0.087	0.130	0.217
efficiency (%)	22	36	45	58
Gain (dB)	-6.6	-4.5	-3.4	-2.4
Inductance (uH)	3.2	7.4	12.0	21.9
XL	139	325	527	963
Q	1256	1202	1104	929
Bandwidth (kHz)	6	6	6	8
Capacitor voltage (kV)	0.9	1.4	1.7	2.1
Capacitance at resonance	163	70	43	24

	A	B
2	MagicLoop	
3		
4	Loop diameter (m)	1.2
5	Conductor Length (m)	B4*Pi
6	" (ft)"	3.281*B5
7	Conductor diameter (mm)	25
8	" (in)"	0.03937*B7
9		
10	Frequency (MHz)	10
11	Power (W)	5
12		
13	Area (sq ft)	B6^2/(4*Pi)
14		
15	Radiation Resistance	3.38*10^-8*B10^4*B13^2
16		
17	Conductor Loss	9.96*10^-4*Sqrt(B10)*(B6/B8)
18		
19	efficiency (%)	B15/(B15+B17)*100
20	Gain (dB)	Log(B19/100)/Log(10)*10
21		
22	Inductance (uH)	1.9*10^-2*B6*(7.353*Log(96*B6/Pi/B8)/Log(10)-6.386)
23		
24	XL	2*Pi*B10*B22
25		
26	Q	B24/(B15+B17)/2
27		
28	Bandwidth (kHz)	2*(B15+B17)/B24*B10*1000
29		
30	Capacitor voltage (kV)	Sqrt(B11*B24*B26)/1000
31		
32	Capacitance at resonance	1/(2*Pi*B10*B24)*10^6

MagicLoop

Loop diameter (m)	1.2	1.2	1.2	1.2	1.2	1.2
Conductor Length (m)	3.8	3.8	3.8	3.8	3.8	3.8
(ft)	12.4	12.4	12.4	12.4	12.4	12.4
Conductor diameter (mm)	25	25	25	25	25	25
(in)	0.98	0.98	0.98	0.98	0.98	0.98
Frequency (MHz)	10	12	14	16	18	20
Power (W)	5	5	5	5	5	5
Area (sq ft)	12.2	12.2	12.2	12.2	12.2	12.2
Radiation Resistance	0.050	0.104	0.192	0.328	0.526	0.802
Conductor Loss	0.040	0.043	0.047	0.050	0.053	0.056
efficiency (%)	56	71	80	87	91	93
Gain (dB)	-2.5	-1.5	-0.9	-0.6	-0.4	-0.3
Inductance (uH)	3.0	3.0	3.0	3.0	3.0	3.0
XL	186	224	261	298	335	373
Q	1039	759	545	394	290	217
Bandwidth (kHz)	10	16	26	41	62	92
Capacitor voltage (kV)	1.0	0.9	0.8	0.8	0.7	0.6
Capacitance at resonance	85	59	44	33	26	21



	1.2	1.2	1.2	1.2	1.2	1.2
	3.8	3.8	3.8	3.8	3.8	3.8
	12.4	12.4	12.4	12.4	12.4	12.4
	25	25	25	25	25	25
	0.98	0.98	0.98	0.98	0.98	0.98
	22	24	26	28	30	32
	5	5	5	5	5	5
	12.2	12.2	12.2	12.2	12.2	12.2
	1.174	1.662	2.289	3.079	4.058	5.253
	0.059	0.061	0.064	0.066	0.069	0.071
	95	96	97	98	98	99
	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1
	3.0	3.0	3.0	3.0	3.0	3.0
	410	447	484	522	559	596
	166	130	103	83	68	56
	132	185	253	338	443	572
	0.6	0.5	0.5	0.5	0.4	0.4
	18	15	13	11	9	8

# of plates	21
Area/plate	4 sq in
separation	0.15 in
capacitance	119.46667

INSTALLATION INSTRUCTIONS

When purchased, the aerial comes complete with a mounting bracket, SO239 socket to take 50 ohm coax via PL259 plug, length of coax is not important but bear in mind of coax loss over very long runs (several wavelengths). There is also a control box supplied with a plug and a nominal 30 feet of two core cable. The control box requires a DC input voltage of between 5 volts and 10 volts, the wire wound pot will decrease the voltage to the motor down to 2 or 3 volts which is all the motor requires.

ING THE AERIAL.

g on which aerial is being used will depend on how and is fitted , the AMA 3 and 6 require, a short pole about 5 this can then be mounted at ground level or on the side use or on the end of a garage or shed, the main thing ting the aerials is that they must not be within 10 feet e metal objects and no way must they be near another that is resonante at its frequency, if the SWR is a little the high side try moving the aerial round a few degrees at a time, the bigger AMA 5 and AMA 4 have ther own mounting pole and should be slid into a two inch diameter 3 foot length of scaffold pole hammer into the ground untill only 2 feet of pole is sticking out of the ground then slid the aerial mounting pole into the short 2 inch pole.

CONNECTION TO RADIO.

Connect the aerial to an SWR meter or if your radio has a built in SWR meter connect it direct to set, set the band you wish to transmit on and whilst radio is in receive press one of the buttons on the control box and carefully listen for a very suddenrise in noise or signal level when you think that the received noise is at its peak switch to tune position or AM using very low power 5 to 10 watts then by quickly pushing alternate buttons watch for lowest SWR if you have gone past the correct tuning point just rock the main tuning dial back and forth to check that you have the correct tune point if it has gone to high press the other button to bring it back down, on some transceivers when you put set to tune and suppose you then go to lower side band the tune position will be out by a small amount. If after all adjustments have been made and the SWR is still high check that the coax to the plug is wired correctly and SWR is still high try rotating the aerial as there could be idden metal or wire effecting the aerial if the SWR is h say more than 1.8 to one then contact us here and we e.

TIPS.

will appreciate, the aerial is very very high Q therefore ight adjustment to tuning will make a hell of a difference best that before using the aerial on transmit you are best dvised to go through all the bands quite a few times just on receive to get the feel of the control box it is not easy so practice will make perfect.
If a longer lead is required any two core cable can be used and added to the existing length.
It is also advisable that when you put the aerial up before hand put self ammalgamating tape around top lid and all plugs, if possible spray grease or somthing similar around mounting bracket bolts so as that when you have to move the bolts come free easily.
NOTE. you may experience the SWR may jump around this is due to moisture and will quickly cease after a few bursts of CW.
We thank you for buying the best aerial from A A AND A LTD and wish you happy DXing 73

de

GW4OGP TONY.