

# GEM QUAD FIBERGLASS ANTENNA

(For 10, 15 and 20 meters)

A Two Element Fibre Glass  
Quad Antenna Designed For  
Better Signal Discrimination &  
Directivity On 10, 15 & 20 Meters!

## Features!

- \* Optimum Spacing, All Bands.
- \* Coated Copper Wire.
- \* Will Accommodate New Bands - from 2M to 20M.
- \* UV Resistant.
- \* Good for 2 Kw. Pep.
- \* Tunable F/B Radio.



## Other Features:

1. Non-corrosive fiberglass construction.
2. Double "Cone-shaped design maintains critical measurements under severe weather conditions.
3. Lightweight (complete antenna weighs approximately 22 lbs.)
4. Heavy duty T.V. rotator will rotate antenna.
5. Maximum front to back ratio and side discrimination.
6. Maximum capture area.
7. Low angle radiation at Min. Height.
8. Forward gain for 2 element quad up to 8 db on DX.
9. Optional 3rd element easily installed with no conversion required. Forward gain up to 8.9 db on DX.
10. Single 52 ohm feed line to all bands.
11. No switches or coils required.
12. Low SWR.
13. Arm mounts designed for exact element spacing and optimum performance. (2 element)
14. Nylon tension wire holders eliminates wire strain and breakage.
15. Designed to withstand high winds.
16. Two meter loop included with antenna.

\*PATENTED

# GEM-QUAD SPECIFICATIONS

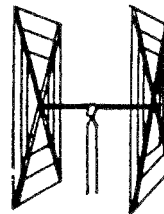
1. The GEM QUAD is a two, three or four element antenna designed to operate on ten, fifteen or twenty meters.
2. A toroid balun gives a single feedline match to all three bands, balun kit supplied.
3. Forward gain for a two element Quad has been reported up to 8 db. on DX, which is where it counts.
4. Forward gain of a third element added to the above, has been reported at 8.9 db., with a very narrow cone of effective radiation.
5. Front to back ratio for two elements is 25 db., for three elements, 30 db. The best forward gain occurs at a point slightly higher than the frequency to which the B/F ratio is tuned.
6. The arms are made of fiberglass rods, fabricated into the "tridetic" design, giving great strength with little weight. Each arm weighs 2.15 pounds. Assembled properly, the GEM QUAD has withstood winds of up to 100 m.p.h..!
7. The mounting spider is made up of durable heavy-duty (6061-T6) aluminum alloy.
8. The spider is hollow, to allow for the insertion of different length booms, should third and fourth elements be desired. These extra elements can be easily installed at any time after the purchase of a two element Quad.
9. Assembly and tuning instructions are included with every kit. When assembled as instructed, tuning takes only a few minutes.
10. Overall size of the GEM QUAD is as follows:  
Each arm weight 2.15 lbs. approx.  
Each arm length 13'6"

Preferred distance above nearest guy wire, 9' at least.

**\* NOTE: Tilt Tower Desirable for 3 and 4 EL Quad**

The antenna is designed for optimum performance and can easily be rotated by an ordinary T.V. rotator. **Unwanted signals are greatly reduced!**

**Regular Quad**  
Optimum spacing on  
**ONE BAND**

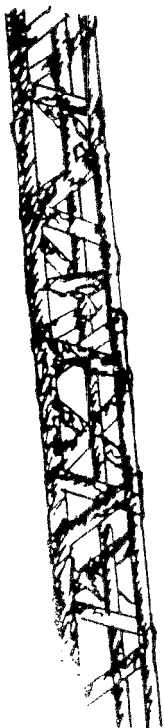


**Conventional Design**

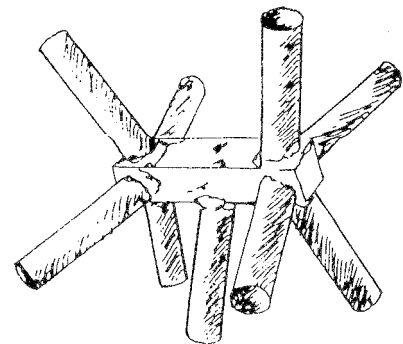
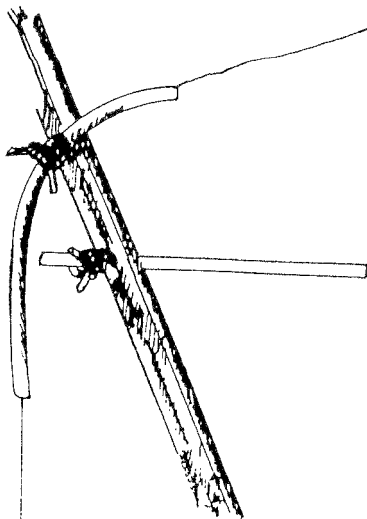
**Gem Quad**  
Optimum spacing on  
**ALL BANDS**



**OUR DESIGN**



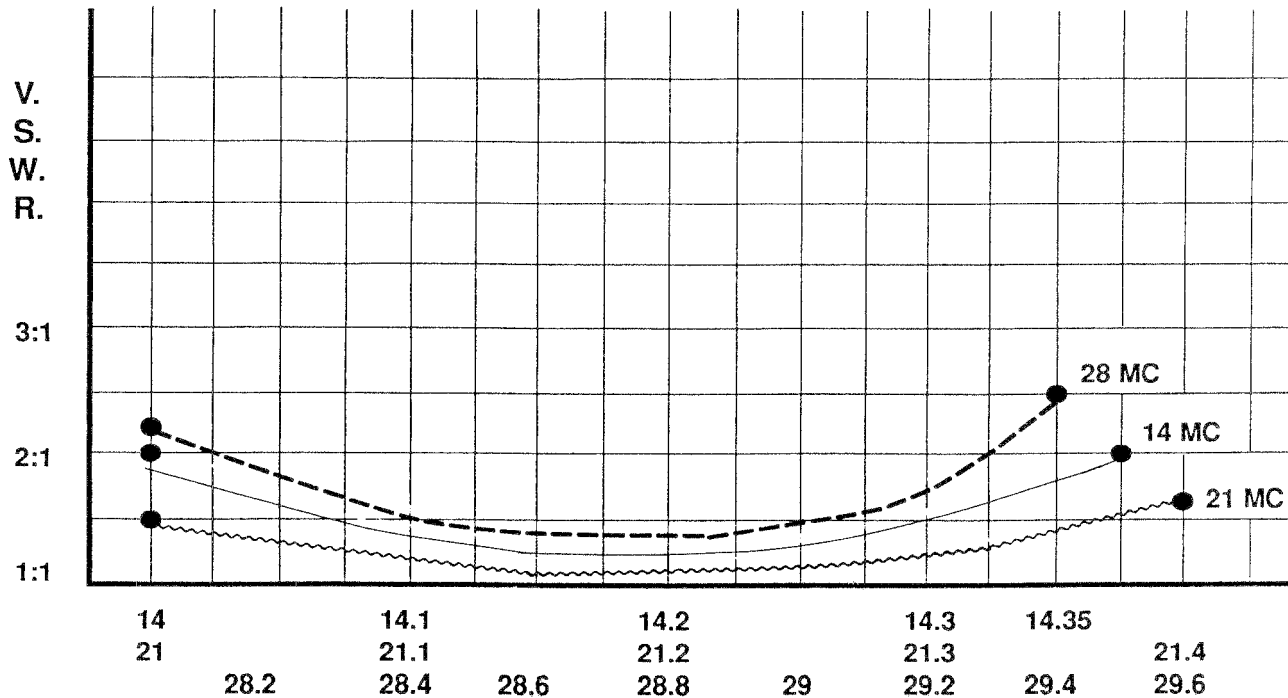
**Unique tridetic arm**  
designed for extra strength and rigidity. Since the air passes through the tridetic design it gives less wind resistance, than solid construction.



**Sturdy aluminum spider** made to rigid specifications assuring exact element spacing. (6061-T6)

**Nylon tension tubes** eliminate sharp angles of wire thus assuring longer life of antenna. The rods provide extra strength and rigidity and keeps wire elements in a state of tension.

## APPROXIMATE V.S.W.R.



## IT IS EASY TO TUNE A GEM QUAD IN 30 MINUTES OR LESS!

The Antenna is quickly and easily tuned by rotating the assembly so that the back is to a clear signal on the receiver, close to the design frequency. Using a shorting bar, short out the reflector stub until you get the least signal. You are now tuned for maximum front to back ratio. You are also tuned for maximum forward gain, which is apparent at a slightly higher frequency than that to which you tuned for B/F efficiency.

### COMPARATIVE GAIN TABLE

ANTENNA TYPE	DB GAIN OVER HALF-WAVE DIPOLE	DB GAIN OVER ISOTROPIC SOURCE
Isotropic Radiator	- 2.1	N/A
1/4 wave Grd Plane	- 1.8	+0.3
1/2 wave dipole	N/A	+2.1
Quad Loop	+2.0	+4.1
2-el Yagi	+5.0	+7.1
2-el Quad	+7.0	+9.1
3-el Yagi	+8.0	+10.1
4-el Yagi	+10.0	+12.1
3-el Quad	+10.0	+12.1
7-el Yagi	+11.0	+13.1
4-el Quad	+12.0	+14.1
5-el Quad	+13.0	+15.1

Relative power gain of several popular antennae relative to isotropic and dipole sources. The gain figures are representative. Element configurations and spacing also play a role. Be sure you know which standard of reference the antennae are being compared to.

Open and Close the band with the Gem Quad design. Full wave DX performance.

High Quality construction using 6061-T6 Aluminum, Stainless Steel hardware, and non-corrosive fiberglass.

Quiet DX reception, reduced precipitation noise.

Quads are less vulnerable to lightning strikes and static than a yagi.

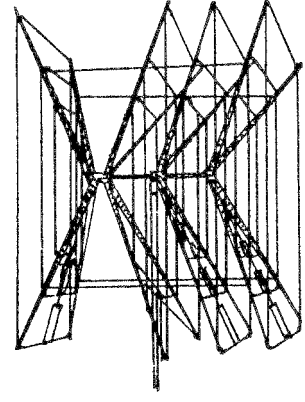
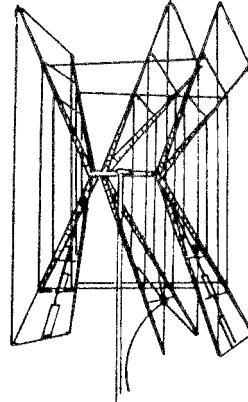
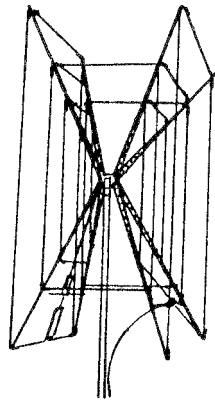
Heavy duty design.

Quads are more banded than a yagi, Low Q, Closed loop.

Tridetic arms give excellent strength and less wind resistance than solid arms.

Element for element and dollar for dollar the Gem Quad offers more gain and general overall performance.

Smaller turning radius than most tri band yagi antenna.



**Two  
Element**

**Three  
Element**

**Four  
Element**

GAIN DB.	5.6	8.0	10
FRONT/BACK RATIO	25 db	30 plus db	30 plus db
VSWR (less than)	2:1	2:1	2:1
TURNING RADIUS	10'5"	11'7"	13'6"
WIND LOAD (sq. ft)	4.2	6.5	8.8
WEIGHT ASSEMBLED	22 lbs.	35 lbs.	45 lbs.
ANTENNA LENGTH	9'6"	16'0"	22'6"
BOOM DIAMETER	2.0"	1.75"	1.75"
BOOM LENGTH	6.0"	6'6"	13'0"
HEIGHT & WIDTH	18'	18'	18'
FEEDLINE	50 ohm	50 ohm	50 ohm
RATED	2 KW	2KW	2KW
ROTATOR	HD TV	Ham 4	Ham 4
RADIATION PATTERN	30 deg.		
OPTIMUM HEIGHT	34' & 64'	34' & 64'	34' & 64'
SHIPPING SIZE	14'X6"X6"	14'X6"X12"	14'X6"X12"
WEIGHT SHIPPING	42 lbs.	65 lbs.	90 lbs.
ELEMENTS SPACING	.12 WL	.08 - .17WL	.08 - .17 WL

***All Specifications are approximate and subject to change.***