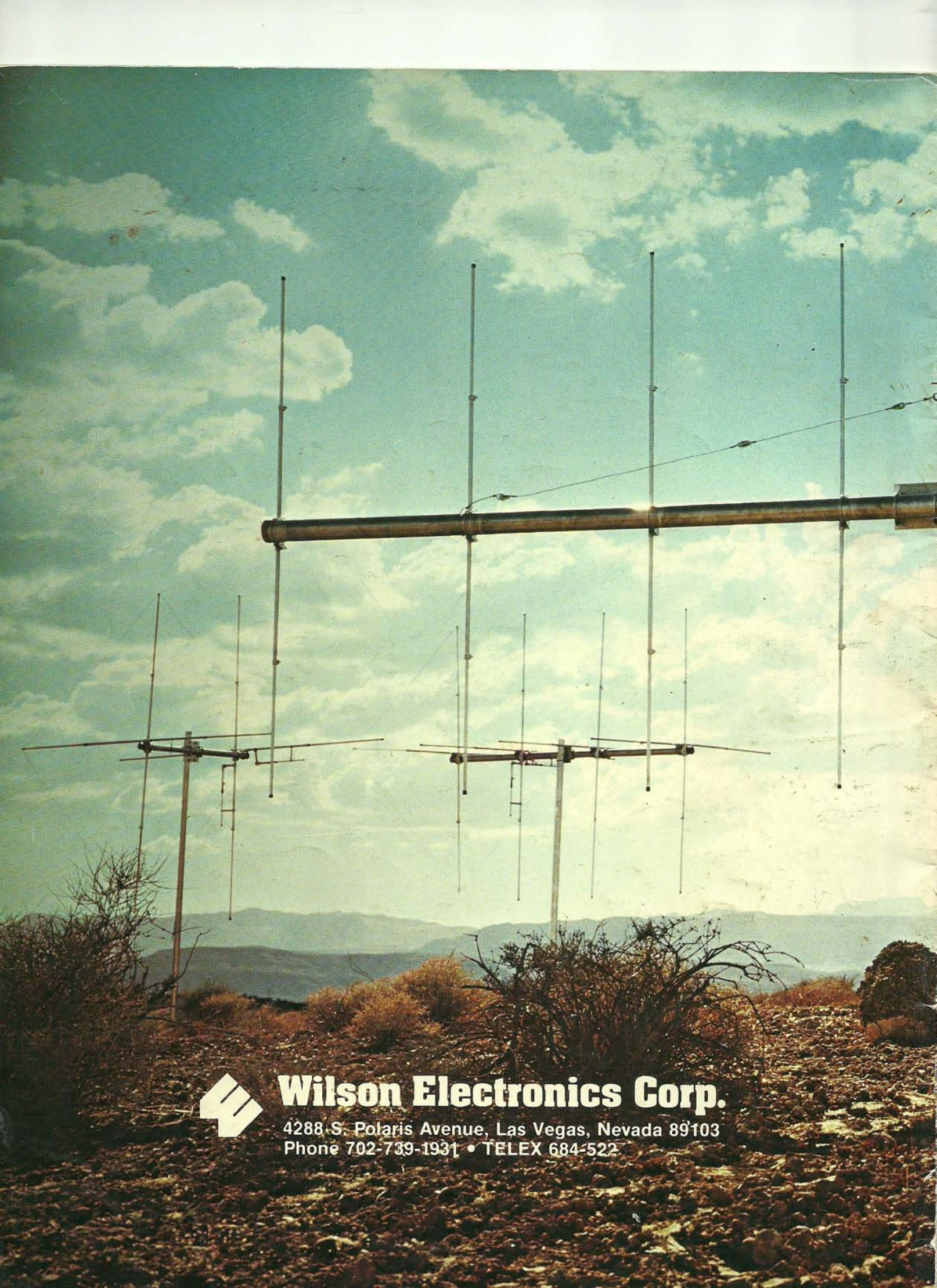


Wilson Electronics Corp.



CITIZENS BAND CATALOG

Base and Mobile Antennas, Rotors, Towers



Wilson Electronics Corp.

4288 S. Polaris Avenue, Las Vegas, Nevada 89103
Phone 702-739-1931 • TELEX 684-522

The Wilson Story

Wilson Electronics Corporation, a worldwide communications company, was founded ten years ago and is known as a major manufacturer of CB antennas, amateur antennas, towers, rotors, FM two way portable radios and communication equipment. Years of experience in the design and construction of antennas and towers have made the Wilson brand name known throughout the world as a high quality product at reasonable cost.

Extensive research and development laboratories and fully staffed engineering capabilities have kept Wilson in the forefront of state-of-the-art design. In the United States alone, over 122,000 square feet of space is dedicated to design, manufacturing and distribution facilities. Additional facilities are also located in the Philippines.

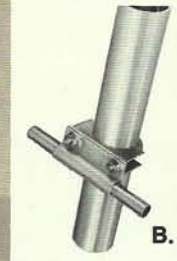
Complementing the technical expertise is a dedicated customer service department. Modern in design and concept, this department is structured to provide unparalleled service. A computerized in-house order entry system and readily available off-the-shelf merchandise assure you of fast delivery. Since time saved is the key to any communication system, Wilson gets you on the air without the delays so often encountered with other suppliers.

Wilson Electronics' complete line of antennas, towers, rotors and radios are distributed nationally by your local dealer.

Why Should I Buy a Wilson Antenna?

With today's variety of antennas available in both citizen and amateur bands, selection becomes more than just choosing a brand. While the glamour of radio communications will always be in the selection of the transceiver itself, any old-time user or electronics expert will tell you that it's the antenna that makes or breaks your radio system. Since CB output power is limited to four watts, only by changing the size, design and quality of the antenna can you actually boost your communications range and reach those greater distances. Wilson Electronics Corporation, known throughout the antenna industry as a high-quality designer and manufacturer, wants you to buy the best...for less!

Wilson offers the following features on all of their antennas (many are exclusive): "ACC see page 10" "DPE see pages 4, 5, 6, 7."



- **HIGHEST QUALITY** — designed and engineered by users for unbeatable durability and wind-loading factors.
- **HIGHEST POWER CAPACITY** — gamma match designed to handle up to 2000 watts of power without burnout (see Figure A).
- **HIGHEST ERP** — designed for highest possible gain to achieve top Effective Radiated Power for longer distances.
- **SUPERIOR TUNING** — durable and adjustable gamma match on directional antennas, and adjustable capacitive coupling on omni-directional antennas, properly match the feedline to the antenna for lowest SWR.
- **FULL TUNING RANGE** — handles all 40 CB channels; easily tuned from CB to low end of 10-meter amateur band.
- **NO-HOLE ELEMENT CLAMPS** — special extruded aluminum clamps do not require drilling holes in element; full compression clamps provide higher strength (see Figures B and C).
- **TOP GRADE CONSTRUCTION** — Aircraft quality aluminum and taper swagged slotted aluminum tubing is used for all CB base and amateur band base station antennas; 17-7 PH stainless steel is used for all CB mobile antennas.
- **QUAD-ELEMENT INSULATION** — uses special fiberglass spreaders (see Figure D).
- **EASIEST TO ASSEMBLE** — designed for minimum assembly time, with easy-to-follow installation instructions.



Wilson Electronics Corp.



To ensure that you select the best type of antenna for your specific needs, Wilson offers these helpful comments.

MOBILE ANTENNA — a quarter-wave antenna that radiates from all sides and directly up. Uses vehicle's metal body as ground plane. Can be permanently or temporarily mounted various places on the vehicle. Can be co-phased using two antennas to achieve a 25% increase in performance.

OMNI-DIRECTIONAL (VERTICAL GROUND PLANE) BASE STATION ANTENNA — radiates in all directions (including up) with equal power. Used to communicate with mobiles or other vertically polarized base stations. Has lower gain than directional antennas. On permanently mounted antennas, radial elements at bottom of mast provide a DC ground plane to eliminate interference.

DIRECTIONAL (BEAM) BASE STATION ANTENNA — high gain antenna that radiates in one direction only (15° to 60° angle) and provides extremely long range communications. Should be used with a mast rotor to aim antenna. Elements can be mounted for vertical polarization, horizontal polarization or dual polarity.

Yagi Antenna — the simplest directional type of antenna. Uses a driven element in front and a reflective element in the rear, and one or more directive elements (the more directive elements used, the more radiation is directed towards the front for greater distances).

Yagi-Quad Antenna — directional antenna consisting of Yagi elements with a quad reflector on the rear element. Quad reflector (square stranded wire) acts as two 1/2-wave elements and increases dB gain and ERP by preventing power from escaping through rear; reflects this normally lost power forward to strengthen the transmission signal. Also minimizes interference from other signals entering the rear of antenna.

Dual Polarity — offers many advantages over the conventional single polarity type. Provides the ability to follow or avoid skip signals (which are bounced off the ionosphere). When the skip changes, change polarity and eliminate unwanted interference. Switch back and forth to follow a conversation without fade-out. Dual polarity also means better communications with both mobile units and base stations since you can switch to complement their operating polarity.

Dual Parasitic Excitation ® pend.

Over the years, many different antenna designs and theories have evolved. Probably the most important has been the Yagi-Uda array, commonly called the Yagi beam or Parasitic beam. The Cubical Quad antenna is another very important antenna developed in recent years. Both the Yagi beam and Cubical Quad have very important individual qualities. The Yagi beam exhibits very high gain, while the Cubical has a very high front-to-back ratio.

At Wilson, we have combined what we believe is the best of both qualities.

Our dual polarity antennas use Yagi-type driven and directive elements and a Quad Parasitic-type reflective element. This means that there are really two parasitic excited fields in the Quad Parasitic reflective element to reinforce the main field in the driven element. We call this the **Dual Parasitic Excitation** field. **DPE** allows less energy to escape out the back or sides of the antenna. Now, a greater percentage of the energy will go out the front where it belongs. Wilson's Laser beams, Shooting Star, and Y-Quad antennas have **Dual Parasitic Excitation**, giving these antennas a higher front-to-back ratio with higher gain.

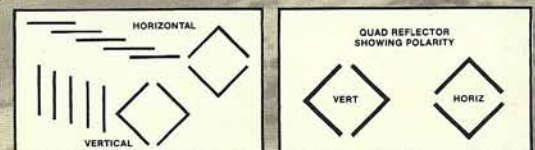
The Yagi beam antenna has its place, however, in many applications. Front-to-back ratios aren't quite as good as the **DPE** antenna, but the forward gain of the Yagi antenna is very high compared to almost any other type of antenna. In fact, by stacking Yagi beam antennas, it's possible to obtain higher gains than almost any other type of antenna.

The two drawings below show how the Quad affects the **Dual Parasitic Excitation** field, effectively making the 12-element Laser antenna (see page 6) a 14-element beam (electrically).

Also shown below is the typical VSWR curve for all Wilson directional beam antennas. The excellent bandwidth for all Wilson beam antennas assures a low VSWR across all 40 CB channels.

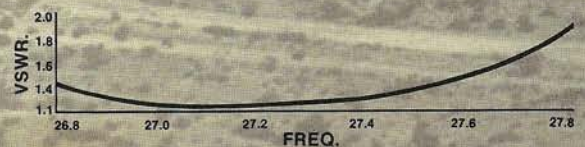


These drawings show how the QUAD affects the **Dual Parasitic Excitation** Principle effectively making the 12 element Laser a 14 element electrical Beam.




Typical VSWR curve for all Wilson directional beam antennas.

The excellent bandwidth of all Wilson beams assures low VSWR across all 40 channels.



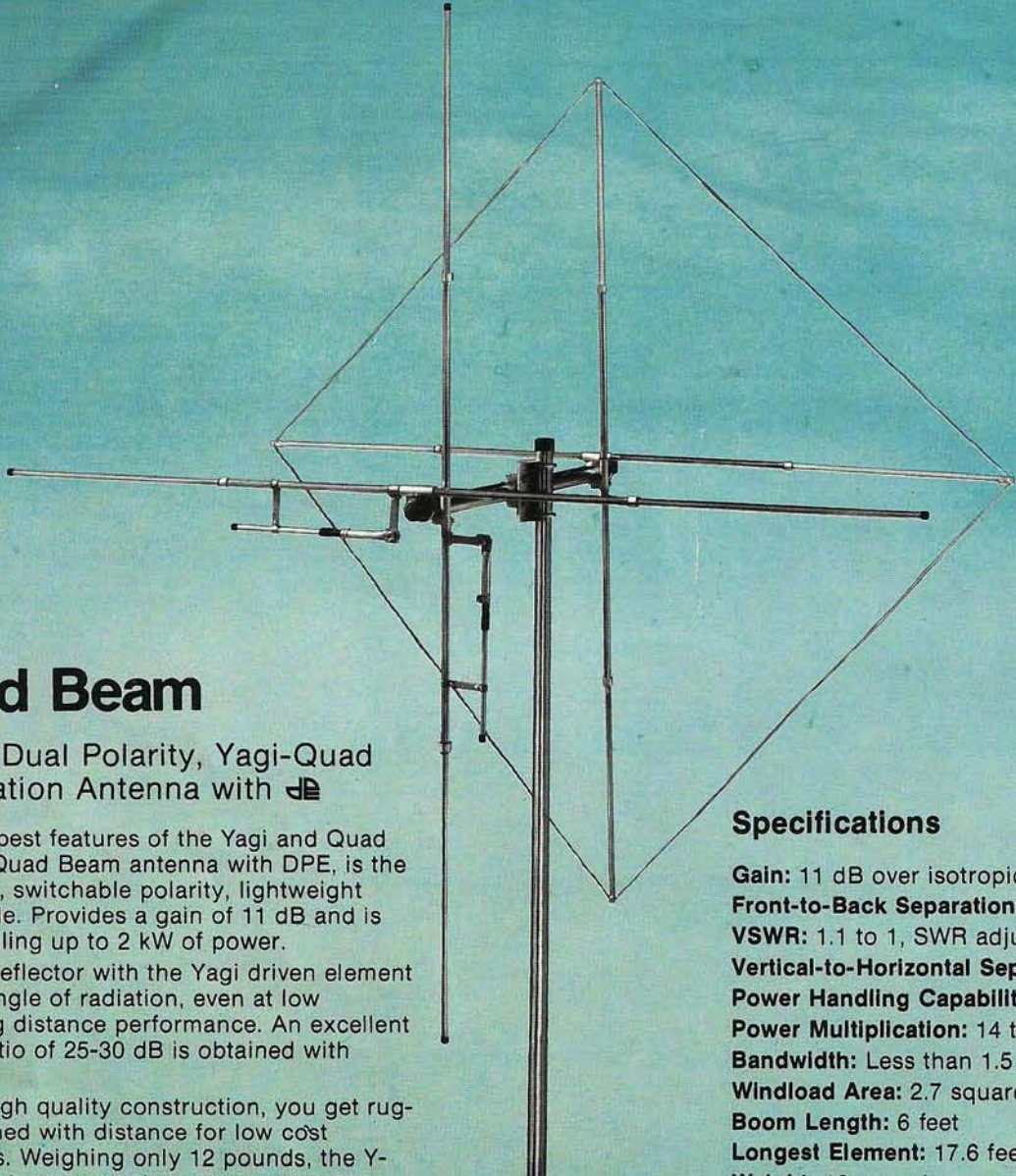
Y-Quad Beam

Directional, Dual Polarity, Yagi-Quad
CB Base Station Antenna with 

Combining the best features of the Yagi and Quad designs, the Y-Quad Beam antenna with DPE, is the best performing, switchable polarity, lightweight antenna available. Provides a gain of 11 dB and is capable of handling up to 2 kW of power.

Use of a Quad reflector with the Yagi driven element assures a low angle of radiation, even at low heights, for long distance performance. An excellent front-to-back ratio of 25-30 dB is obtained with this design.

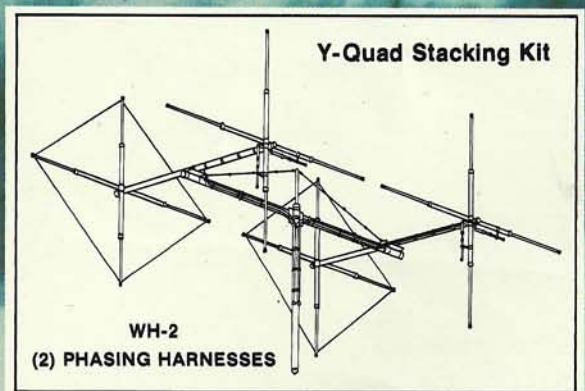
With Wilson's high quality construction, you get ruggedness combined with distance for low cost communications. Weighing only 12 pounds, the Y-Quad Beam can be turned with a Wilson WR-500 rotor for pinpoint directional accuracy.



Model antenna
not to scale

Specifications


- Gain:** 11 dB over isotropic
- Front-to-Back Separation:** 25/30 dB
- VSWR:** 1.1 to 1, SWR adjustable
- Vertical-to-Horizontal Separation:** 20 dB
- Power Handling Capability:** 2 kW
- Power Multiplication:** 14 times
- Bandwidth:** Less than 1.5 to 1 over all 40 channels
- Windload Area:** 2.7 square feet
- Boom Length:** 6 feet
- Longest Element:** 17.6 feet
- Weight:** 12 pounds
- Recommended Rotor:** Wilson WR-500
- Recommended Tower:** All Wilson towers
- Quad Element:** Fiberglass insulation



Y-Quad Stacking Kit Specifications

- Gain:** 14 dB
- Side Rejection:** 35 dB
- Front to Back Ratio:** 40 dB
- Boom Length:** 19 feet
- Weight:** 22 pounds

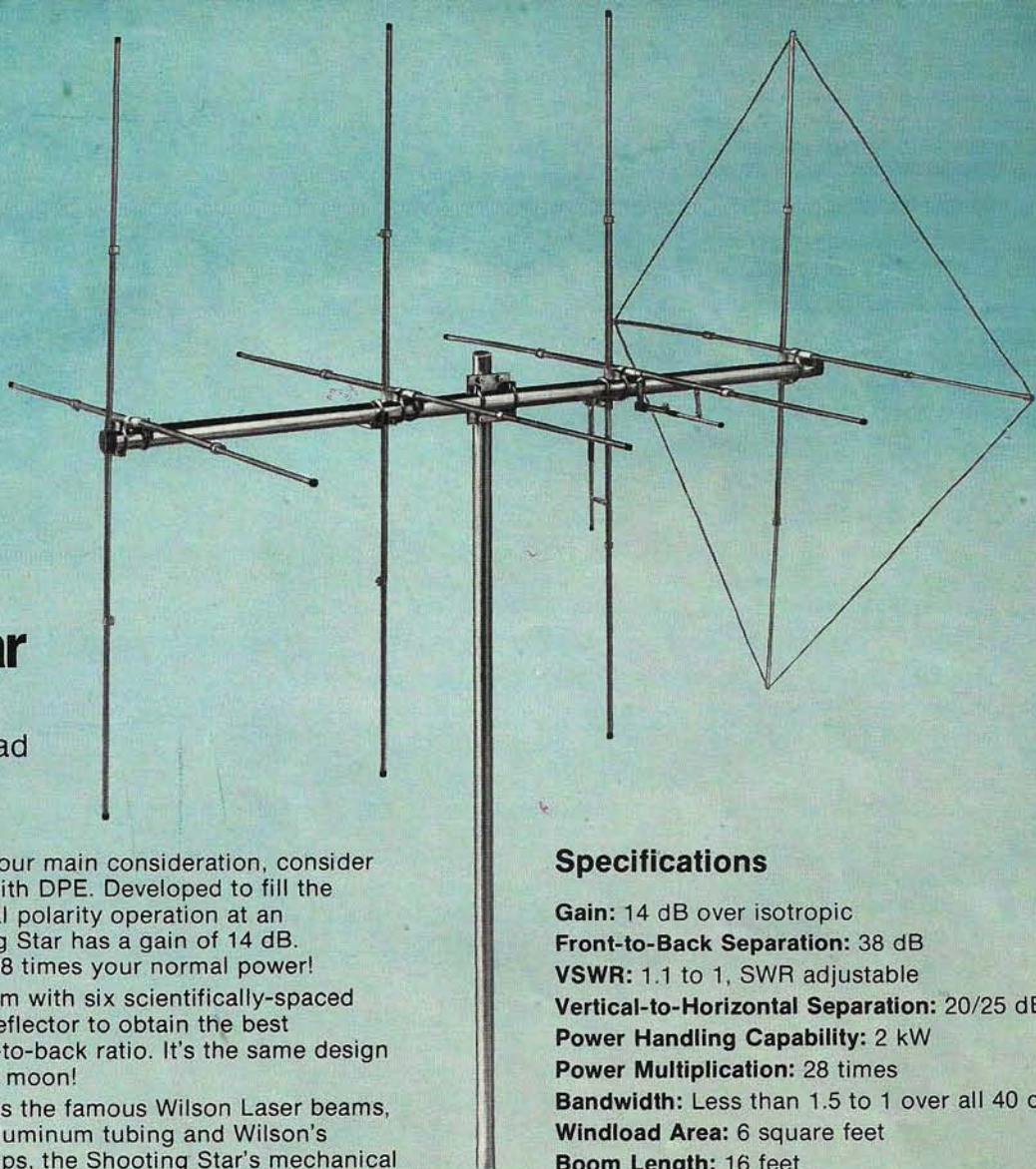
8-Element Shooting Star

Directional,
Dual Polarity, Yagi-Quad
CB Base Station
Antenna with 

When size or economics are your main consideration, consider the 8-element Shooting Star with DPE. Developed to fill the need for top performance, dual polarity operation at an economical price, the Shooting Star has a gain of 14 dB. That's like broadcasting with 28 times your normal power!

The design uses a 16-foot boom with six scientifically-spaced 18 foot elements and a quad reflector to obtain the best combination of gain and front-to-back ratio. It's the same design used to bounce signals off the moon!

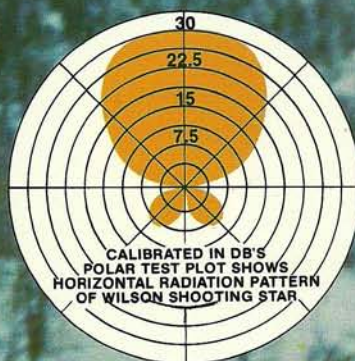
Using the same construction as the famous Wilson Laser beams, with heavy-wall aircraft-type aluminum tubing and Wilson's special extruded element clamps, the Shooting Star's mechanical construction is superior to other like antennas. And, it has the Wilson 2 kW power handling capability!

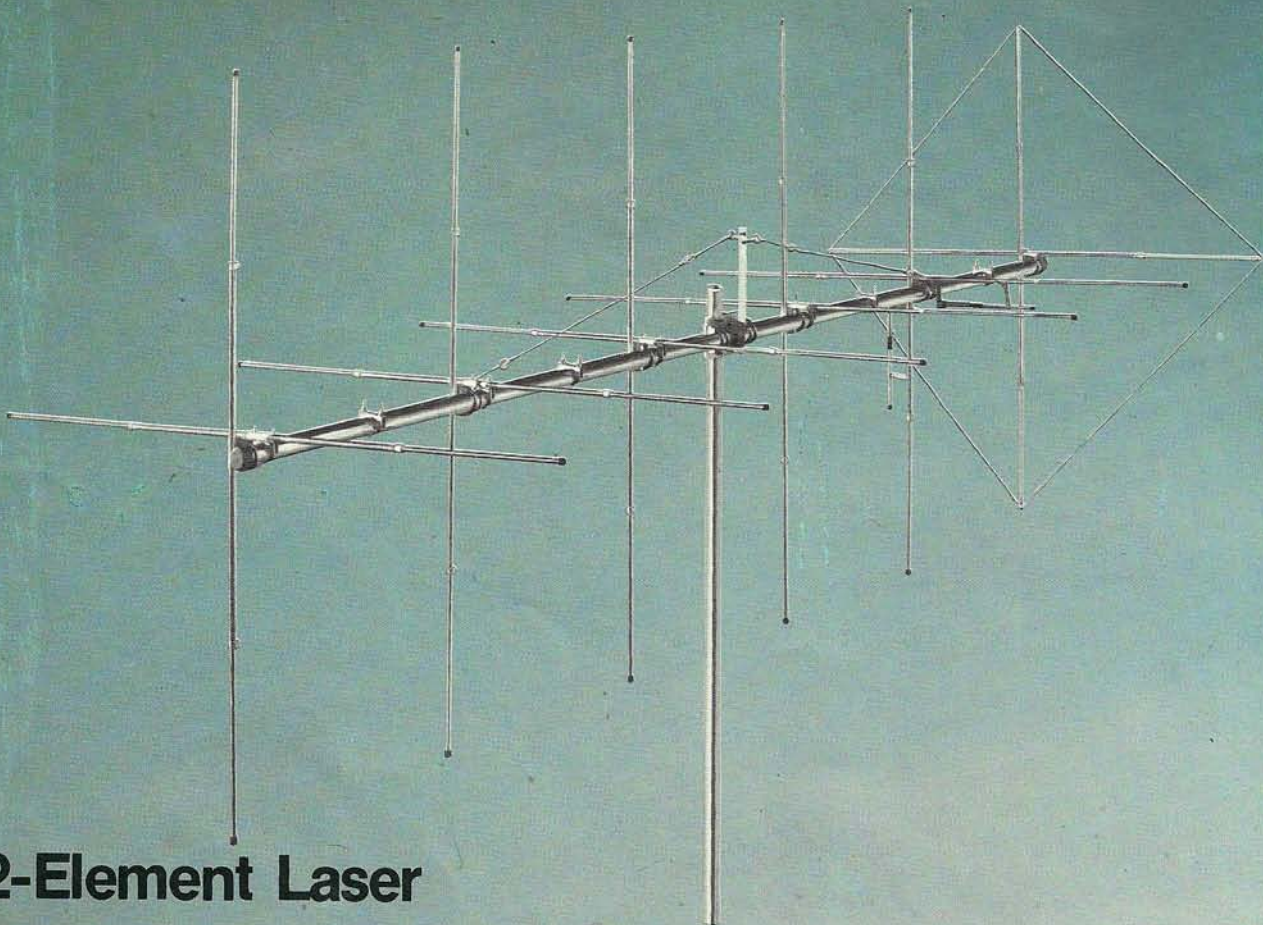


Model antenna
not to scale


Specifications

- Gain:** 14 dB over isotropic
- Front-to-Back Separation:** 38 dB
- VSWR:** 1.1 to 1, SWR adjustable
- Vertical-to-Horizontal Separation:** 20/25 dB
- Power Handling Capability:** 2 kW
- Power Multiplication:** 28 times
- Bandwidth:** Less than 1.5 to 1 over all 40 channels
- Windload Area:** 6 square feet
- Boom Length:** 16 feet
- Longest Element:** 18 feet
- Weight:** 28 pounds
- Recommended Rotor:** Wilson WR-500
- Recommended Tower:** All Wilson towers
- Quad Element:** Fiberglass insulation





12-Element Laser

Directional, Dual Polarity, Yagi-Quad
CB Base Station Antenna with 

The 12-element Laser antenna with DPE, offers a gain of 17 dB and develops an effective multiplied power level 50 times that of a normal CB transmitter...second only to the Super Laser 500. This gives you a wider range communications capability than found with most other antennas.

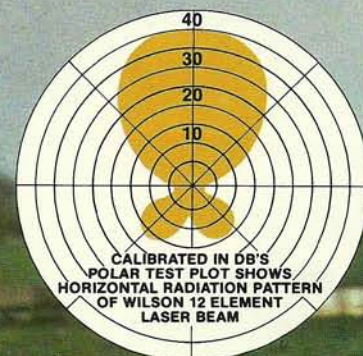
Mounted on a 31-foot boom are 10 scientifically-spaced Yagi parasitic elements, and a Quad reflector. Electrically, this provides you with four more parasitic elements for a cumulative total of 14 elements! Adjustable gamma matches obtain the lowest SWR for both vertical and horizontal polarization. Front-to-back ratio is 44 dB with side rejection as much as 45 dB.

Aircraft quality aluminum is used, and Wilson engineering gives you an unparalleled safety factor — a 400 times safety factor — since as much as 2 kW of power can be handled without burnout. You get long lasting dependability and top performance.


Model antenna
not to scale

Specifications

- Gain:** 17 dB over isotropic
- Front-to-Back Separation:** Up to 44 dB
- VSWR:** 1.1 to 1, SWR adjustable
- Vertical-to-Horizontal Separation:** 20/25 dB
- Power Handling Capability:** 2 kW
- Power Multiplication:** 50 times
- Bandwidth:** Less than 1.5 to 1 over all 40 channels
- Windload Area:** 10.5 square feet
- Boom Length:** 31 feet
- Longest Element:** 18 feet
- Weight:** 43 pounds
- Recommended Rotor:** Wilson WR-1000
- Recommended Tower:** All Wilson towers
- Quad Element:** Fiberglass insulation



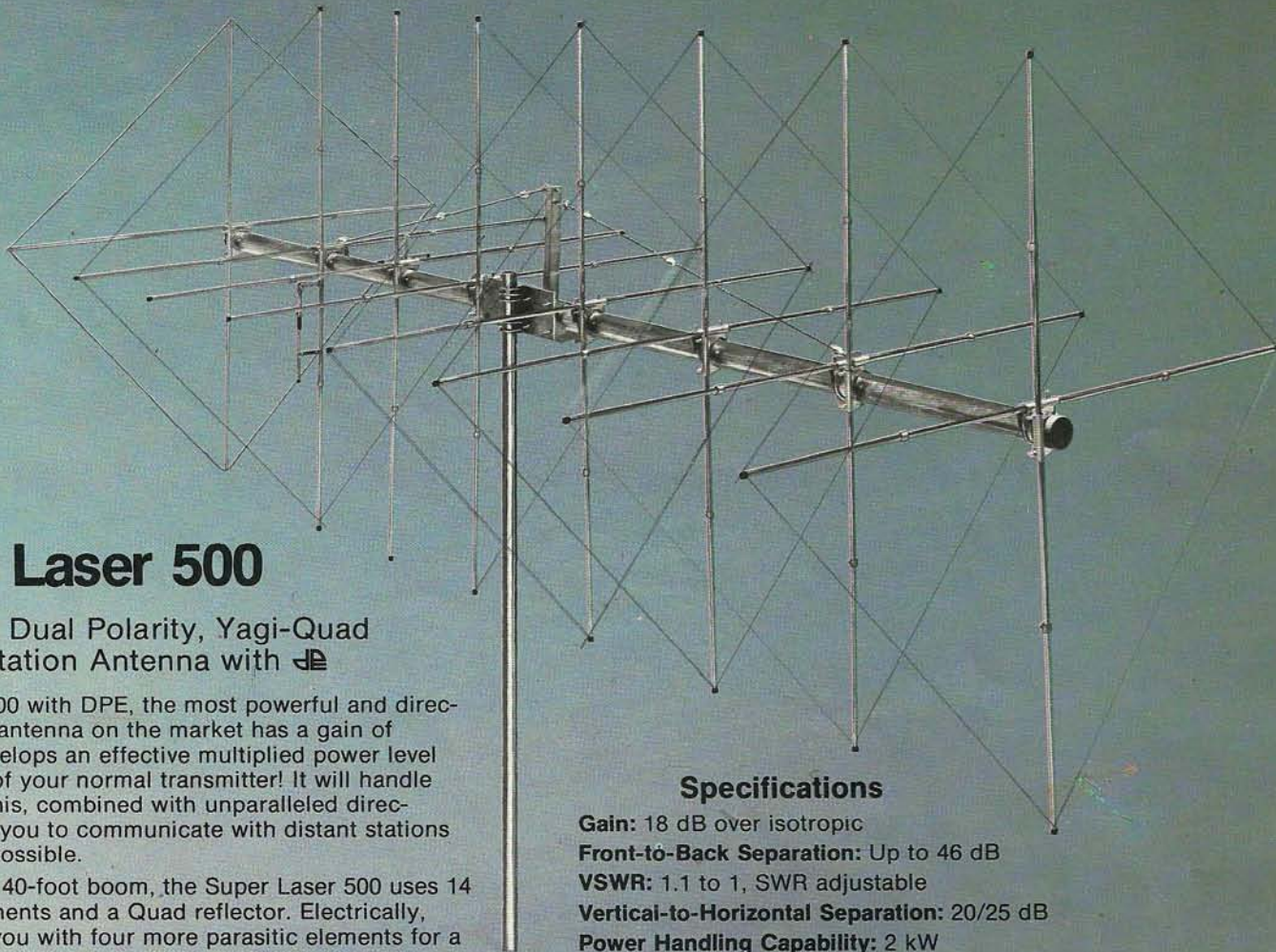
Super Laser 500

Directional Dual Polarity, Yagi-Quad
CB Base Station Antenna with 

Super Laser 500 with DPE, the most powerful and directive CB beam antenna on the market has a gain of 18 dB and develops an effective multiplied power level 60 times that of your normal transmitter! It will handle up to 2 kW. This, combined with unparalleled directivity, enables you to communicate with distant stations never before possible.

Mounted on a 40-foot boom, the Super Laser 500 uses 14 Yagi-type elements and a Quad reflector. Electrically, this provides you with four more parasitic elements for a cumulative total of 18 elements! Adjustable gamma matches obtain the lowest SWR for both vertical and horizontal polarization. Forward gain, front-to-back ratio, and side rejection are the highest in the industry.

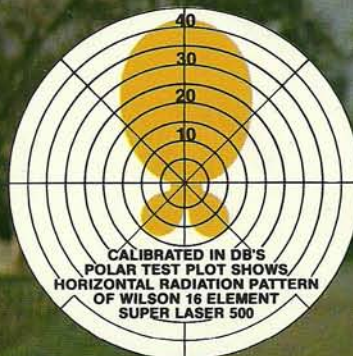
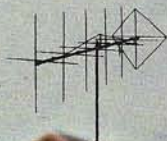
Truly the classic antenna for the best in CB communications, the Super Laser 500 is rugged and dependable. Elements are constructed of quality $\frac{5}{8}$ -inch heavy-wall aircraft aluminum. Aircraft quality aluminum is also used for the heavy-duty 3-inch OD boom. Combined with Wilson's high quality extruded aluminum clamps, the Super Laser 500 has been tested for a wind survival of over 90 mph.



Specifications

- Gain:** 18 dB over isotropic
- Front-to-Back Separation:** Up to 46 dB
- VSWR:** 1.1 to 1, SWR adjustable
- Vertical-to-Horizontal Separation:** 20/25 dB
- Power Handling Capability:** 2 kW
- Power Multiplication:** 60 times
- Bandwidth:** Less than 1.5 to 1 over all 40 channels
- Windload Area:** 15 square feet
- Boom Length:** 40 feet
- Longest Element:** 18 feet
- Weight:** 70 pounds
- Recommended Rotor:** Wilson WR-1000
- Recommended Tower:** Wilson heavy-duty stacked sections
- Quad Element:** Fiberglass insulation

Model antenna
not to scale



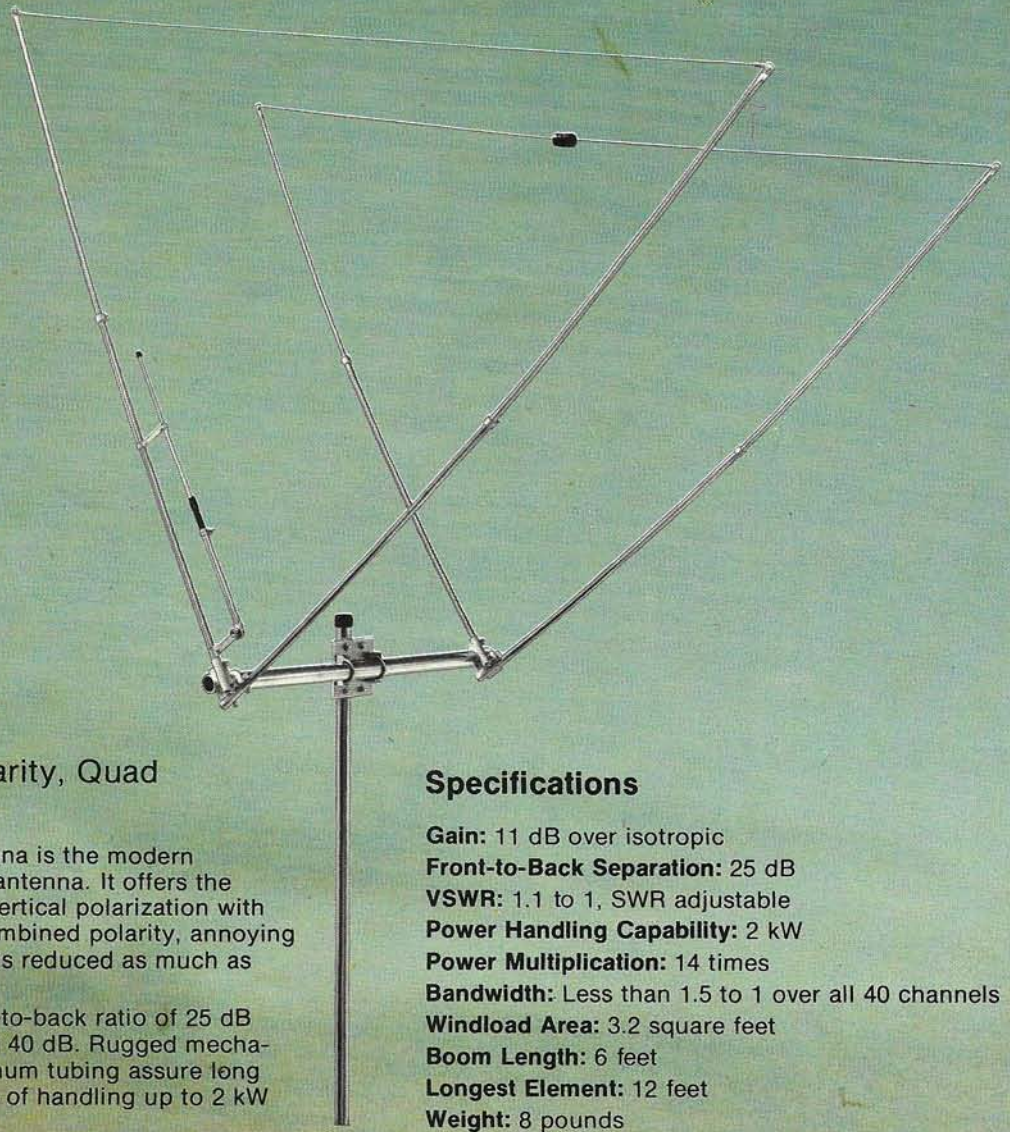
V-Quad Beam

Directional, Combined Polarity, Quad CB Base Station Antenna

The 11 dB gain V-Quad Beam antenna is the modern successor to the normal quad-type antenna. It offers the advantages of both horizontal and vertical polarization with only "one" coaxial feedline. With combined polarity, annoying signal fade due to polarization loss is reduced as much as 10 dB.

New "V" configuration gives a front-to-back ratio of 25 dB and an outstanding side rejection of 40 dB. Rugged mechanical structure and top grade aluminum tubing assure long lasting dependable service. Capable of handling up to 2 kW of power.

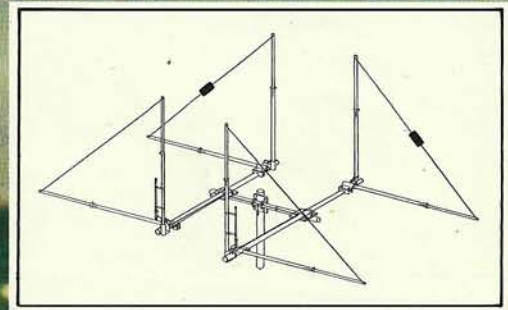
A stacking kit is also available for stacking the V-Quad antennas.



Model antenna
not to scale

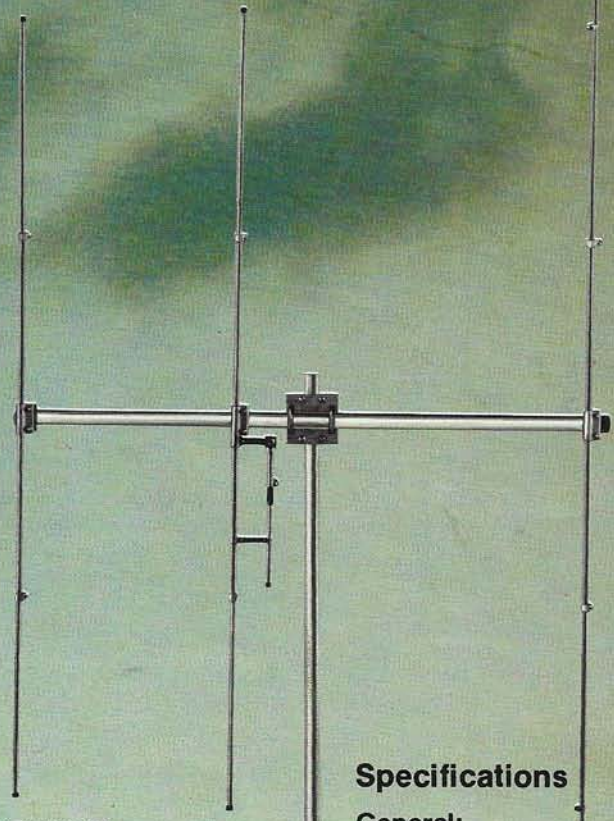
Specifications

- Gain:** 11 dB over isotropic
- Front-to-Back Separation:** 25 dB
- VSWR:** 1.1 to 1, SWR adjustable
- Power Handling Capability:** 2 kW
- Power Multiplication:** 14 times
- Bandwidth:** Less than 1.5 to 1 over all 40 channels
- Windload Area:** 3.2 square feet
- Boom Length:** 6 feet
- Longest Element:** 12 feet
- Weight:** 8 pounds
- Recommended Rotor:** Wilson WR-500
- Recommended Tower:** All Wilson towers



V-Quad Stacking Kit Specifications

- Gain:** 14 dB
- Size Rejection:** 40 dB
- Front to Back Ratio:** Up to 40 dB
- Boom Length:** 10 feet
- Weight:** 8 pounds



Maximum Beams

Directional, Single Polarity, Yagi CB Base Station Antennas

In the classic directional Yagi design, the Maximum Beams line of base station antennas can be mounted either vertically or horizontally for best base-to-mobile or base-to-base communications. Choose from the basic three-element M103C model up to the sophisticated M108C, an eight-element antenna (driven element, reflective element and six directive elements) giving best directivity.

Most economical antenna of its type on the market today, all Maximum Beams feature Wilson's adjustable gamma match for high performance. Ruggedly built, especially at high stress points, these antennas use taper swagged slotted tubing for maximum strength with minimum wind loading.

Easily tuned from 26.5-30 MHz by adjusting the element lengths, the Maximum Beams provide a minimum of 11 dB gain (M103C) up to a maximum of 18 dB (M108C). Like other Wilson antennas, they will handle up to 2 kW of power without burnout.

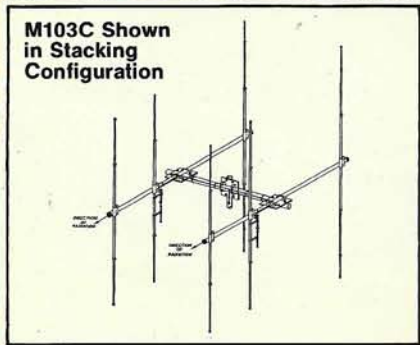
Specifications

General:

- Element Construction:** Telescoping aluminum tubing
- Element Clamps:** Quality aluminum, full compression, no holes
- Element-to-Boom Mount:** Heavy extruded aluminum
- SWR Adjustment:** Gamma match, 52 ohms
- Power Handling Capability:** 2 kW

Mechanical:	M108C	M106C	M105C	M103C
Boom Length (feet):	40	31	26	11.5
Boom OD (inches):	3	2	2	1.5
Number of Elements:	8	6	5	3
Longest Element (feet):	19	19	19	19
Turn Radius (feet):	24	17	15	10
Surface Area (sq. ft.):	15	10.21	8.47	4.5
Wind Survival (mph):	90	90	90	90
Weight (pounds):	60	35	24	12
Recommended Rotor (Wilson):	WR-1000	WR-500	WR-500	WR-500
Stacking Kit:	N/A	MBSK	MBSK	VQ2SK
Electrical:				
Tuning (MHz):	26.5-30	26.5-30	26.5-30	26.5-30
Gain (dB):	18	17	15.5	11
Front-to-Back Separation (dB):	38	31	31	25
VSWR:	1.5:1 or less	1.5:1 or less	1.5:1 or less	1.5:1 or less

Model antenna not to scale



Alpha V58

Omni-Directional $\frac{5}{8}$ Wave, Vertical Ground Plane with Four Full Length Radials, CB Base Station Antenna

Superior to all other verticals, the Alpha V58 is a $\frac{5}{8}$ wave ground plane antenna with a 5.14 dB gain. Four full-size radials provide a DC ground to eliminate ignition and other static noise. Loop loading eliminates the need for a coil, so nothing can burn out. Wilson's unique ACC (*Adjustable Capacitive Coupling*) system enables a flat 1.1 to 1 SWR in the widest range of installations.

Durable Alpha V58 stands at 21 feet and can handle up to 2 kW of power.

Specifications

- Gain 5.14 dB
- 4 full length radials
- Loop loading
- 1.1 to 1 SWR
- No coils to burn out
- Frequency range 26.5 to 29 MHz
- Will handle 2,000 watts
- Height, 21 ft.
- Weight, 7 lbs.
- New radial hub design

V1

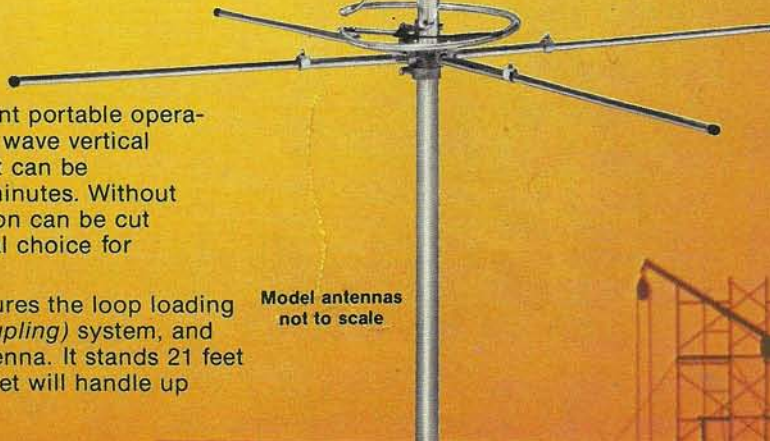
Omni-Directional $\frac{5}{8}$ Wave, Vertical Ground Plane CB Base Station Antenna

Ideal for campers and mobilers who want portable operation, the V1 is the perfect antenna. A $\frac{5}{8}$ wave vertical ground plane antenna without radials, it can be set up or taken down in less than five minutes. Without radials, the space required for installation can be cut to a minimum, thus making it the logical choice for apartment or condominium use.

The V1 has a gain of 3 dB and features the loop loading ACC (*Adjustable Capacitive Coupling*) system, and durability of the Alpha V58 antenna. It stands 21 feet high, weighs only five pounds, yet will handle up to 2 kW of power.

Specifications

- Gain 3 dB
- No radials
- Loop loading
- 1.1 to 1 SWR
- Frequency range 26.5 to 29 MHz
- No coils to burn out
- Will handle 2,000 watts
- Height, 21 ft.
- Weight, 5 lbs.



Model antennas
not to scale

Sportster AM-1, MM-1

Versatile, Base Loaded CB Mobile Antennas

Efficiency, versatility and ruggedness are the key words that describe the Sportster series of mobile antennas. Because the same engineering expertise of Wilson's renowned line of CB base station antennas is behind the design of the Sportster series, you're assured of getting the most efficient mobile antenna available today.

Versatility is proven by the various choices to best meet your requirements. For permanent roof-top or trunk-lip installation, choose the AM-1 antenna. Or, for those who want to easily remove their antenna when not in use for added security, choose the magnetic-mounted MM-1 antenna. Whichever way you go, you're assured of top performance.

Ruggedness is standard with Wilson. All Sportster series mobile antennas use 17-7PH Stainless Steel Radiators, and have a restoring force of 98% when subjected to bending at 360°. That's durability.



Convoy TM-1

Dual, Co-Phased CB Truck Antennas

Designed specifically for truck cab spacing, the Convoy high efficiency antennas provide the ultimate in mobile communications. Using dual, co-phased $\frac{1}{4}$ -wave antennas, omni-directional performance is enhanced up to 25%. For even better results, Wilson's centered loaded design keeps the radiation above the cab height for best transmission and reception. TM-1 is mountable on either mirror mounts or side mountable for RV (camper) use.

Non-corrosive 17-7PH stainless steel radiators have a restoring force of 98% when subjected to bending at 360°. Easily adjusted for lowest SWR. Complete dual phasing harness and mounting hardware permits easy installation for fast on-the-air operation. Convoy antennas operate between 26.9 - 27.8 MHz.

WR-1000 ROTOR

The rotor everyone has been waiting years for. Wilson WR-1000 is the King Kong of rotors. Capable of turning the largest antenna arrays with ease. Superior to prop pitch rotors. The WR-1000 has such turning torque that you never have to worry about turning your antenna in the wind or have the brake strip out. 30" stainless steel spur-ring gear, weather proof plug-in control cable receptacle (no terminal strips to contend with). Huge brake drum, using controlled wedge brake, locks rotor for ultimate braking strength. 116 steel ball bearings capable of withstanding loads over one ton of balanced weight. Controls include: Power on/off, calibrate, maximum rotation, clockwise rotation, counter-clockwise rotation and antenna brake. A lighted accurate direction meter continuously indicates the antenna position.

SPECIFICATIONS: WR-1000

Loads: Capable of rotating with ease and breaking wind loads up to 25 square feet.

Housing: Heavy duty cast aluminum.

Motor: Stall torque of rotor 4,000 inch-pounds.

Brake: Solenoid controlled wedge type brake override, 12,000 inch-pounds.

Gears: Stainless steel spur-ring gear.

Bearings: 116 steel ball bearings capable of handling over one ton of balanced weight.

Mast: Accepts 2" to 3" masts.

Voltage: 115V ac

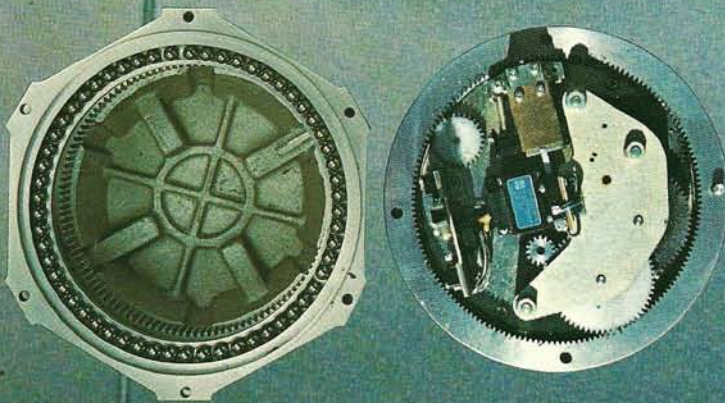
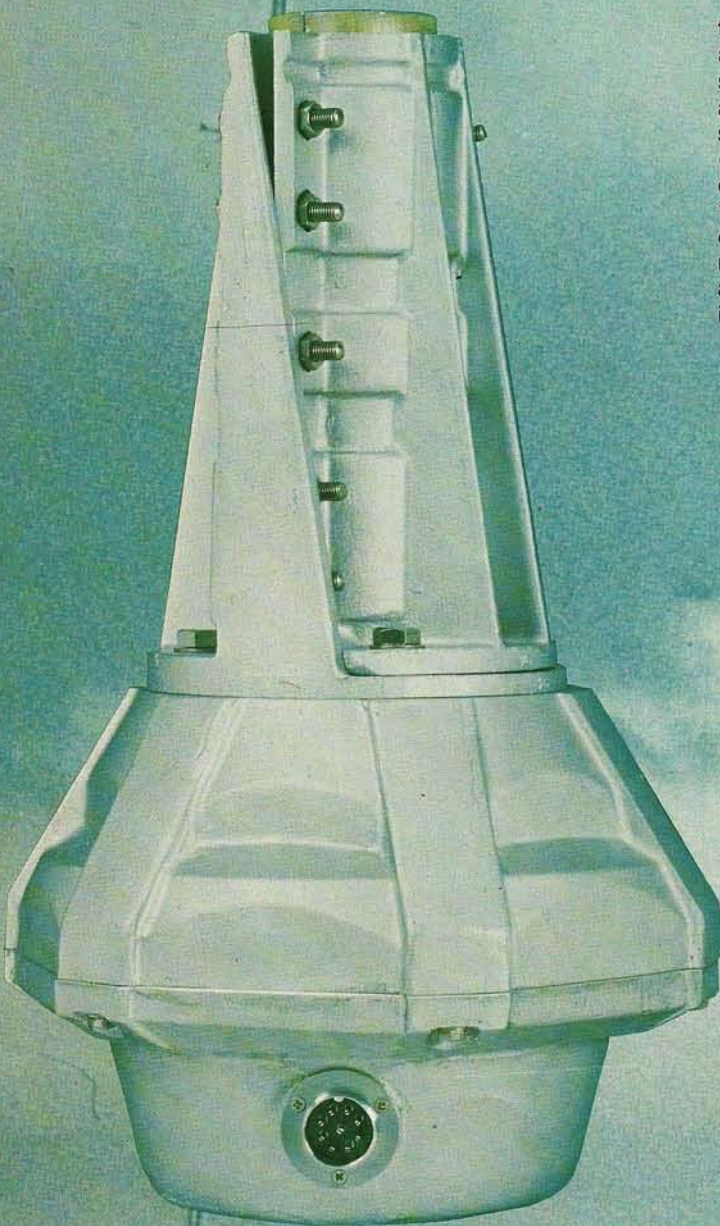
Control Box Dimensions: 5⁷/₈ W x 6³/₄ H x 5⁷/₈ D inches.

Weight: Rotor only 52 pounds.

Shipping Weight: 65 pounds.

Size: 11" diameter, 19" height.

Mounting: Plate mounting only 8 bolts.



WR-500 ROTOR

Wilson's WR-500 rotor, exhibits most of the durability features of the WR-1000 and offers top performance when properly used. Not a weakling, the WR-500 rotor easily handles antennas having a windload area of up to 6 square feet! Powered by a high torque motor with a stall-torque of 780 inch-pounds, and a disc-type brake to ensure the antenna holds at the position selected, the WR-500 is quality indeed. Heavy-duty cast aluminum is used for the rugged housing.

Full 360° rotation can be accomplished in less than 60 seconds due to the stainless steel drive gears and the 98 ball bearings used to support a load up to 750 pounds balanced weight.

Controls include: power on/off, calibrate, maximum rotation, clockwise rotation, and counter-clockwise rotation. A lighted, accurate direction meter continuously indicates the antenna's position.

An ideal rotor for communications antennas such as Wilson Shooting Star, Tri Band amateur antennas, etc.

Specifications

Maximum Load: 6 square feet windload area.

Housing: Heavy-duty cast aluminum

Motor: High torque; 780 inch-pounds stall torque

Brake Type: Disk

Brake Torque: 1300 inch-pounds

Gears: Stainless steel drive

Bearings: 98 steel balls; 750 pounds balanced weight capacity

Hardware: All hardware included; accepts 1 $\frac{3}{8}$ to 2 $\frac{1}{8}$ inch OD masts

Mounting: In-line or tower

Control Cable: 6 conductor; maximum resistance 2.5 ohms

Voltage: 115V ac, 50-60 Hz

Weight: Rotor only 12 pounds

Control Box Dimensions: 6 $\frac{3}{4}$ W x 3 $\frac{3}{16}$ H x 5 $\frac{1}{8}$ D inches

Shipping Weight: 20 pounds.

Size: 7" diameter, 17" height including top and bottom mounting brackets.

