

Suggested SCG Antennas HF & VHF/UHF

**SCG Ham Radio SIG
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HF Verticals – No Radials required

- **Diamond BB7V** – 22 feet, telescoping sections (shorten by 1')
 - Covers 10M to 160M
 - Max power: 250 watts PEP
 - Requires remote tuner at base – unless you want to put down radials
 - \$360 at most dealers
- **Comet CHA 250B** – 23.5 feet (exceeds current limits unless shortened)
 - Covers 6M to 80M
 - Max power: 250 watts PEP
 - Uses a matching transformer
 - \$380 at most dealers
- Both Antennas give very reasonable SWR's over a wide range but the trade-off is reduced efficiency (i.e. reduced actual radiated R/F)

Hy-Gain (MFJ) Verticals – requires Radials

- **AV-14AVQ** – 18 feet
 - Covers 10, 15, 20, 40M using traps
 - Max Power: 1500 watts
 - Will need to leave off top capacitance hat
 - \$190 at most dealers
- **AV-18VS** – 18 feet
 - Covers 10, 15, 20, 40, 80M – no traps
 - Max power: 1500 watts
 - Change bands manually with clip on base tuning coil
 - \$120 at most dealers
- **MFJ-2386** – 23.5 feet – shorten top to comply with height limit
 - Covers 6 to 80M, 250 Watts limit
 - Advertised as No-Radial but will work better with radials
 - \$219 – most dealers

Hustler Trapped Vertical Series – needs radials

- Very popular antenna with many decades of production
- **4BTV** – 21'
 - Covers 10-15-20-40M
 - Need to leave off top capacitance hat
 - \$190 – most dealers
- **6BTV** – 24' but leave off 80 meter coil to give 21' height
 - Covers 10-15-20-30-40-80M
 - \$573 – most dealers
- Both rated at 1500 watts
- Consider using a radial plate and tilt base (DX Engineering)

Misc. HF Verticals

- **Comtek 20VA** - 17' – needs radials
 - Single band – choose 10, 12, 15, 17, or 20M during installation
 - Rated at 3000 watts PEP
 - \$148 at most dealers
- **Homebrew** – 21' vertical aluminum mast with radials
 - Use radials, possibly use a tuning coil or trap
 - Tune with remote tuner, refer to various antenna books, articles
- **SteppIR – Small IR Mark III** – 19'
 - Covers 6M to 80M continuous with optional 30/40/80M coils – needs radials
 - Green in color so very attractive in community
 - Rated at 1500 watts or 500 watts with 80M coil
 - \$921 to \$1571 depending on options

SCREWDRIIVER HF VERTICALS – requires radials

- **Tarheel Antennas** – a number of different models
 - Maximum height with 102" whip approx. 13.5 feet
 - Continuous coverage 10-80M
 - Power rating varies by model – large models = 1500 watts
 - Price range: \$470 to \$790
- **Scorpion Antennas** – local Phoenix area manufacturer
 - Maximum height with 102" whip approx. 13.5 feet
 - Continuous coverage 10-80M
 - Power rating: 1500 watts
 - List price: \$850



Flagpole Antennas

- Grayline – OCF 16' vertical – no radials
 - Requires a base-mounted remote tuner
 - Rated at 1500 watts – covers 10-80M
 - Caution: Much of transmit power will be consumed in the tuner
- Homebrew – put a Screwdriver antenna inside PVC or Fiberglass pole
 - 16' height – make it look just like a flagpole
 - Will need radials – covers 10-80M
 - Prototype with Scorpion Antennas in design stage
 - Can handle 1500 watts PEP
- Zero-Five Antennas – 20' [Informational only]
 - Exceeds flagpole height limit
 - 6 to 30M
 - \$700



Considerations for HF radial fields

- Ground radials do not need to be cut to specific length, 9' -12' will work however try to match the vertical antenna height if you can
- Minimum of 4 radials will work - however for good antenna performance, put down at least 8 and 16 or more if you can.
- Radials do not all have to be the same length if you have space constrictions
- Wire mesh also works well – lay in 4 directions if possible
- Radials for elevated verticals will need to be cut to specific lengths
- A ring of #10 or #12 bare copper wire around the antenna base can work as a radial connector – just solder your radials to the ring – and the ground side of the antenna
- Option: Radial plate from DX Engineering or Tarheel Antennas
- Can install a lightning arrestor in a radial plate
- Put a 4' or longer ground rod by antenna base
- Tilt-plate base helps with tuning Hustler antennas (DX Engineering)

Wire Antennas – up to 5' above roof top

- G5RV – (MFJ)
 - 12, 15, 20, 40, 80M
 - 1500 watt PEP
 - \$50 – many vendors
- Off-Center Fed (OCF) dipole
 - Buckmaster and other vendors
 - Covers , 6, 10, 12, 17,20, 40, (80M option) [Note: 15M missing]
 - 300 or 3000 watt options
 - Homebrew with 4:1 balun
- Others
 - Slopers
 - Single band center-fed dipoles
 - End-fed

VHF/UHF – 2M and 70 cm – Omni-directional

- Two major vendors: Comet and Diamond
- Heights from 4' to 16.6' feet
- Prices from \$70 to \$215 – most major vendors
- Power ratings 150 to 200 watts
- Mounting: Higher is better so main roof or patio roof mount is best
- MESH network for our community is being considered so tri-band 2M, 70 cm, 23 cm antennas might be attractive. This is still TBD.

VERTICALS							
Manufacturer	MODEL	Height	Bands	POWER PEP	Price	Vendor Code	NOTES
Diamond	BB7V	22'	10M to 160M	250	\$360	GP, DX, HRO	Requires Tuner, 6 telescoping sections, no radials, 5' collapsed, need to shorten by 1' for height restriction
Comet	CHA-250B	23.5	6M to 80M	250	\$380	GP, DX, HRO	<i>NOTE: INFORMATIONAL ONLY - Exceeds SCG antenna height limits for most SCG homes. No Radials required.</i>
Hy-Gain (MFJ)	AV-14AVQ	18'	10-15-20-40M	1500	\$190	GP, DX, HRO, MFJ	Will need to leave off top Hat, uses Traps, needs Radials
Hy-Gain (MFJ)	AV-18VS	18'	10-15-20-40-80M	1500	\$120	GP, DX, HRO	No traps, change bands manually with clip on base loading coil
Hustler	4BTV, 5BTV, 6BTV	21'	10-15-20-40M	1500	\$190	GP, DX, HRO	Will need to leave off 4BTV top Hat, and 80M coil on 6BTV. Uses Traps, needs Radials
COMTEK	20-VA	17'	10,, 12, 15, 17, or 20M	3000	\$148	GP, DX, HRO	Single band, adjust during installation for any band 10 to 20M, needs radials
MFJ	MFJ-2386	23.5'	6 to 80 M	250	\$219	GP, DX, HRO, MFJ	Advertised as "no radials" but will work better with radials, shorten top to comply with height restriction
Scorpion	SA-680	13.5'	10-80M	1500	\$850	Scorpion	Screwdriver antenna with 72' or 102" whip. Needs radials. List price shown. Lifetime warranty
Tarheel	Many	6' to 13.5'	10-80M	Varies	\$470-\$790	TH, GP, DX, HRO	Screwdriver antenna with 9 different models, various whip sizes. Needs radials
SteppIR	SmallIR Mark III	19'	6 to 80 M	500 to 1500	\$921 - \$1570	SteppIR	Continuous 1/4 coverage, with optional 80/40/30M coil - green in color - needs radial wires
Home-brew	Home-brew	21'	TBD	TBD	TBD	Self	Use a 21' aluminum mast with radials, use remote tuner - home-brew project
FLAGPOLE ANTENNAS							
Manufacturer	MODEL	Height	Bands	POWER PEP	Price	Vendor	NOTES
Greyline	16' DX	16'	10 to 80M	1500	\$600	Greyline	Requires remote tuner, approx. total cost with MFJ tuner: \$1800 Performance still being researched
Home-brew		16'	10 to 80M	1500	TBD		Install Scorpion or Tarheel screwdriver inside PVC or Fiberglass flagpole - home-brew project
Zerofive-Antennas	20 foot	20'	6-30M	2000	\$700	ZeroFive	<i>NOTE: INFORMATIONAL ONLY - too tall for Sun City Grand flagpole antenna limits. Needs remote tuner</i>
WIRE DIPOLE							
Manufacturer	MODEL	Height	Bands	POWER PEP	Price	Vendor Code	NOTES
MFJ GSRV	MFJ-1778	21'	12, 15, 20, 40, 80M	1500	\$50	GP, DX, HRO, MFJ	102' length, feed with 300 ohm twinlead. Can be mounted in "V" shape over roof. Needs choke in shack
Buckmaster	BMT-DX-OCF	21'	6, 10, 12, 17, 20, 40, 80M	300/3000	\$242/350	GP, DX, HRO	135' length off-center feed dipole. Low & High power versions. Legs can be at right angles.
Buckmaster	BMT-DX-OCF-40	21'	6, 10, 12, 17, 20, 40M	300/3000	\$237/343	GP, DX, HRO	68' length off-center feed dipole. Low & High power versions. Legs can be at right angles.
MFJ	MFJ 1779B	21'	40 or 80M	1500	\$50	GP, DX, HRO, MFJ	Single band wire dipole 143' long, can be used as sloper, inverted V, or horizontal
DUAL BAND VHF/UHF VERTICAL BASE ANTENNAS:							
Manufacturer	MODEL	Height	Bands	POWER	Price	Vendor	NOTES
Comet	GP-1	4'2"	2m/440	200	\$74.95	GP, DX, HRO	1 Section; PL-259
Comet	GP-3	5'11"	2m/440	200	\$99.95	GP, DX, HRO	1 Section; PL-259
Comet	GP-6	10'5"	2m/440	200	\$149.95	GP, DX, HRO	2 Sections; PL-259
Comet	GP-9	16'6"	2m/440	200	\$214.95	GP, DX, HRO	3 Sections; PL-259; GP-9N uses N Connectors
Diamond	X-30A	4.5"	2m/440	150	\$69.95	GP, DX, HRO	1 Section; PL-259
Diamond	X-50A	5.6'	2m/440	200	\$94.95	GP, DX, HRO	1 Section; PL-259; X-50NA uses N Connectors
Diamond	X-200A	8.3'	2m/440	200	\$124.95	GP, DX, HRO	2 Sections; PL-259; X-200NA uses N Connectors
Diamond	X-300A	10'	2m/440	200	\$139.95	GP, DX, HRO	2 Sections; PL-259; X-300NA uses N Connectors
DEALERS:		CODE	WEB				
Giga Parts	GP	https://www.gigaparts.com/				866-535-4442	Las Vegas, NV and Huntsville, AL
DX Engineering	DX	https://www.dxengineering.com/				1-800-777-0703	Tallmadge, Ohio
Ham Radio Outlet	HRO	https://www.hamradio.com				602-242-3515	Phoenix, many other cities
MFJ	MFJ	www.mfjenterprises.com/				1-800-647-1800	Starkville, MS
Scorpion Antennas	Scorpion	https://www.scorpionantennas.com/				623-326-8780	1614 E Dolores Rd. Phoenix, AZ 85086
Tarheel	TH	https://www.tarheelantennas.com/				877-671-9409	St. Joseph, MO
SteppIR	SteppIR	https://www.steppir.com/				425-453-1910	Bellevue, WA
Greyline	Greyline	https://greylineperformance.com/				435-200-4902	Salt Lake City ??
MISC:							
Wireman		https://www.thewireman.com/				1-800-727-9473	Landrum, SC - longterm reliable provider of coax, connectors, misc. cables and wire