

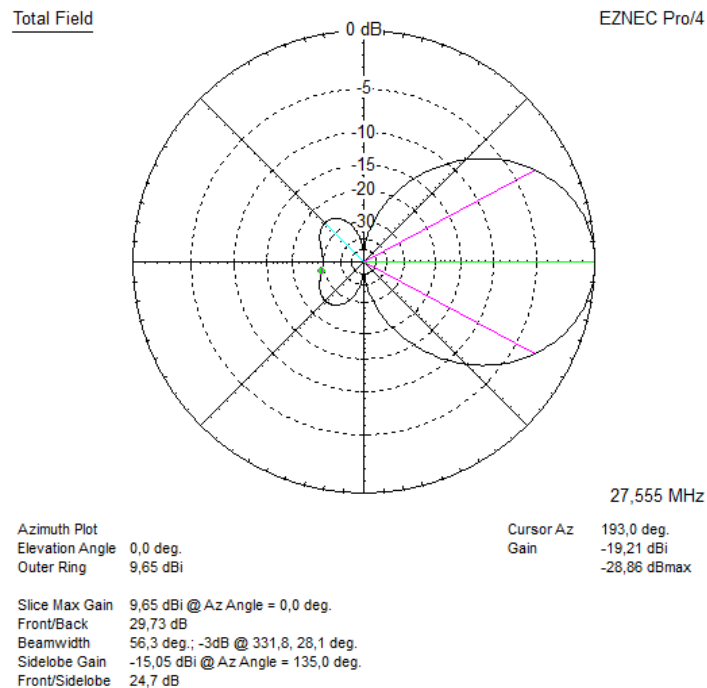
## 5,91 M 5el OWA 9,65 dBI



For: DX portion 11 meter band  
Antenna Type: 5el OWA  
(optimum wide band array)  
Designed by: HPSD version 1.01 Nov 1998  
Boom length: 5,91 Meter  
Gain: 9,65 dBI (@27,555 Mhz)  
FB >29 dB  
FR >24 dB  
Impedance: 50 ohms, direct fed  
SWR below 1:1.1 > 1600 KHz.  
SWR below 2:1 > 1900 KHz

The 5el OWA, probably one of the most famous antennas in the world.

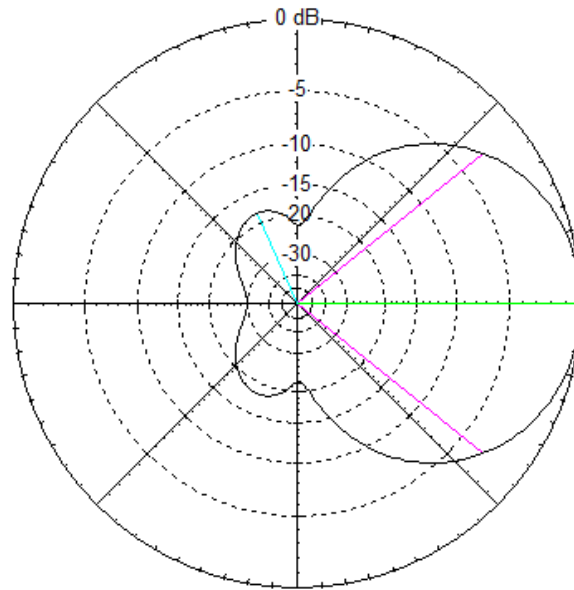
Most antenna manufacturers have one available.



Above the freespace azimuth plot.

Total Field

EZNEC Pro/4



27,555 MHz

Elevation Plot  
Azimuth Angle 0,0 deg.  
Outer Ring 9,65 dBi

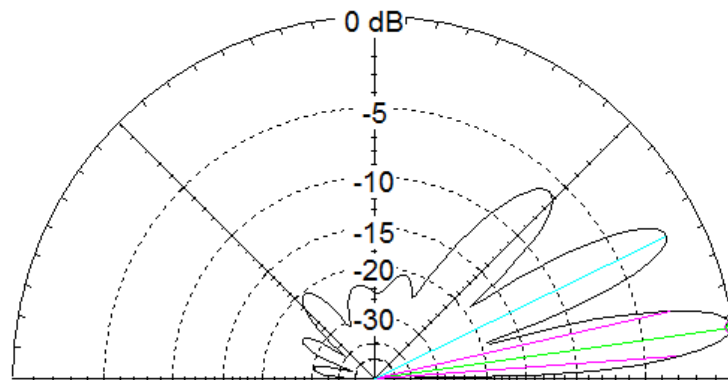
Cursor Elev 0,0 deg.  
Gain 9,65 dBi  
0,0 dBmax

Slice Max Gain 9,65 dBi @ Elev Angle = 0,0 deg.  
Front/Back 29,73 dB  
Beamwidth 77,6 deg.; -3dB @ 321,2, 38,8 deg.  
Sidelobe Gain -8,55 dBi @ Elev Angle = 114,0 deg.  
Front/Sidelobe 18,2 dB

Above the free space elevation plot

Total Field

EZNEC Pro/4



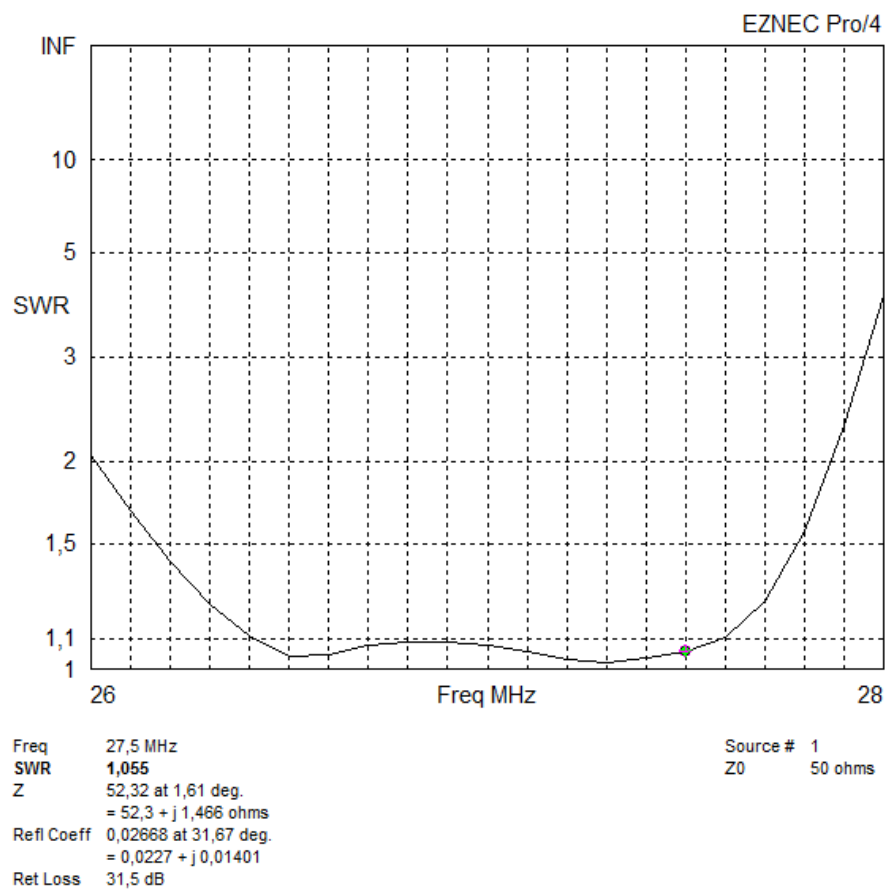
27,555 MHz

Elevation Plot  
Azimuth Angle 0,0 deg.  
Outer Ring 15,17 dBi

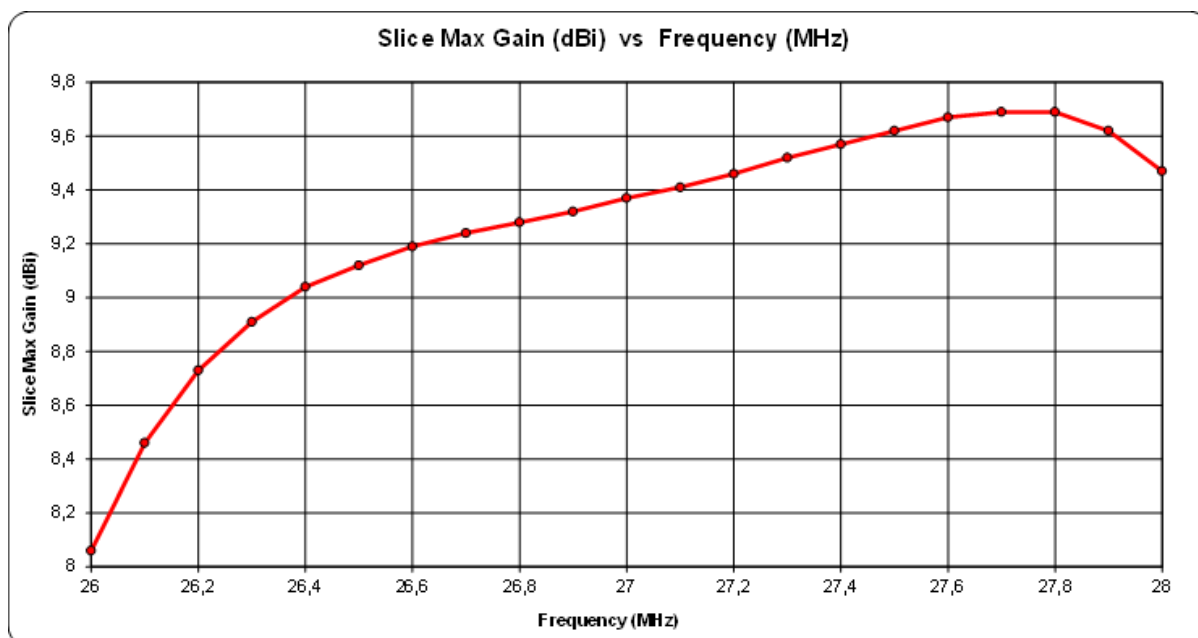
Cursor Elev 8,0 deg.  
Gain 15,17 dBi  
0,0 dBmax

Slice Max Gain 15,17 dBi @ Elev Angle = 8,0 deg.  
Beamwidth 8,6 deg.; -3dB @ 4,2, 12,8 deg.  
Sidelobe Gain 13,33 dBi @ Elev Angle = 26,0 deg.  
Front/Sidelobe 1,84 dB

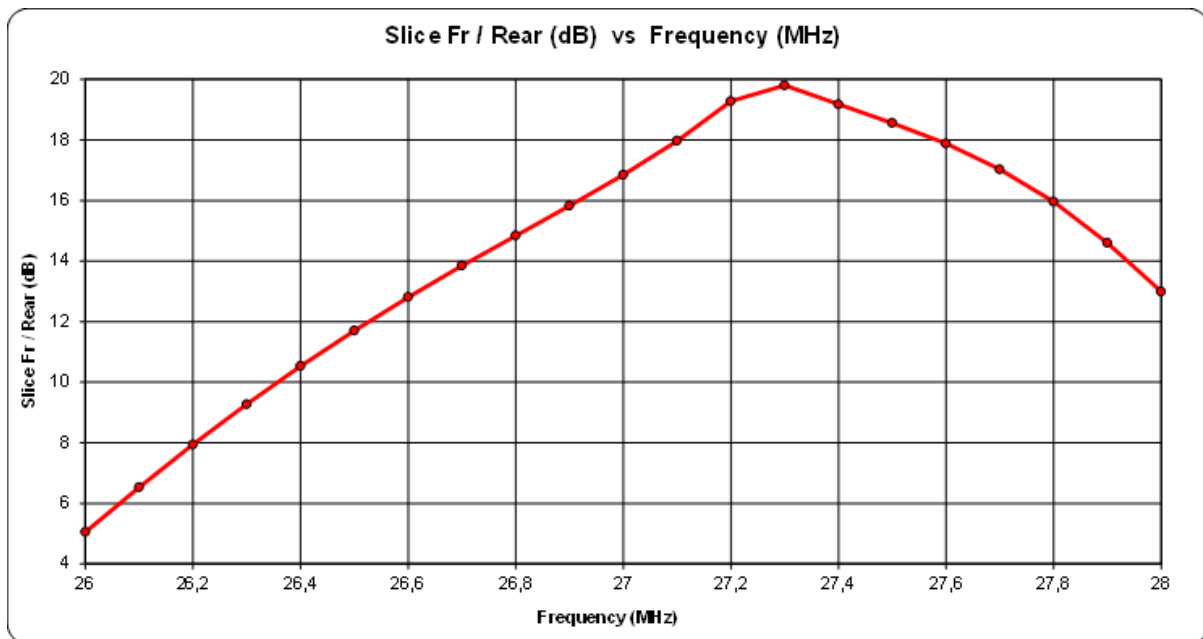
Above the elevation plot when the antenna is situated at 18 meters above average ground.



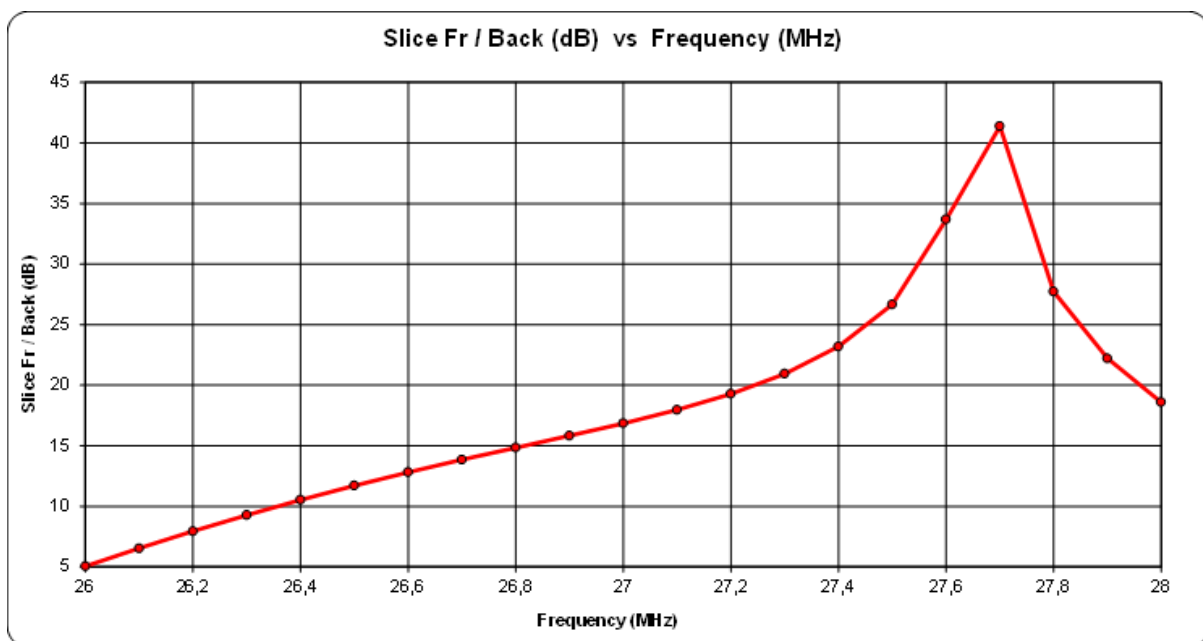
Above the SWR plot.



Above: Gain versus frequency



Above: front to rear versus frequency



Above: front to back versus frequency

Dimensions:

All elements are made out of 5/8 inch and 1/2 inch aluminium tubing.  
The center piece of 5/8 inch is 3 meters long. At the end 1/2 tubing needs to be inserted, to make up for the full element length....

**DO NOT CHANGE DIAMETERS OR LENGTH  
LENGTH:**

Reflector length =	5.582 M
Radiator length =	5.570 M
Director 1 length =	5.240 M
Director 2 length =	5.110 M
Director 3 length =	4.830 M

DISTANCES:

Reflector to radiator =	1.21 M
Reflector to director 1=	1.48 M
Reflector to director 2=	3.16 M
Reflector to director 3=	5.91 M

Feeding the antenna:

The antenna is 50 ohms.

The radiator (and preferably all elements) need to be isolated from the boom. The radiator can be split in half and be “direct” fed.

With this said...a 1:1 balun or RF choke is advice.

(see above picture)